

**5ESS®-2000 Switch  
Processor Recovery Messages  
5E10 and later**

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## 1. INTRODUCTION

### 1.1 PURPOSE

This document is a guide to the processor recovery messages (PRMs) produced during a 5ESS<sup>®</sup>-2000 switch initialization and recovery. Its purpose is to help the user interpret the messages and correct faults.

Processor recovery messages (PRMs) are one-line, fixed-format messages that use hexadecimal notation to print critical 5ESS<sup>®</sup>-2000 switch initialization and recovery information. PRMs are associated with the recovery of the following system entities: the administrative module (AM), the communications module (CM), the common network interface (CNI) ring, and the communications module processor (CMP).

### 1.2 UPDATE INFORMATION

This document is being updated to include new and changed processor recovery messages.

#### 1.2.1 LUCENT TECHNOLOGIES

As a result of the AT&T divestiture, the AT&T Network Systems division becomes Lucent Technologies, a separate and independent corporation. The 5ESS<sup>®</sup>-2000 switch, and many other network and transmission products become products of Lucent Technologies. The marketing, sales, engineering, delivery, installation, support, and future development of these products will be provided by Lucent Technologies.

Therefore, the corporate name and logo on this document are being changed from the AT&T brand to the new Lucent Technologies brand. The AT&T name is being removed from the cover, spine, title page, content (where appropriate) as well as the 9-digit document order number.

All pages of this document are not being reissued to make these changes. Instead, the pages will be reissued over a period of time as technical and other changes are required. Customers on standing order for this document, as of this publication, will see references to the AT&T name on previous-issue pages. Customers receiving new orders for this document will see the references changed to the Lucent Technologies name throughout the document as appropriate. Exceptions may exist in software-driven elements such as Input/Output messages, recent change screens, master control center (MCC) screens, etc. These elements will not be changed in this document until such time as they are changed in the software code.

Document updates will not be made specifically to remove historical references to AT&T, especially in cases where the Network Systems division of AT&T, now Lucent Technologies, provided the product or service in question.

#### 1.2.2 SUPPORTED SOFTWARE RELEASES

In accordance with the 5ESS<sup>®</sup>-2000 Switch Software Support Plan, the 5E10 software release will be rated Discontinued Availability (DA) on November 13, 1998. The information supporting 5E10 and earlier is being removed from all documentation. The actual removal of the information will occur over time instead of concurrently.

If you are supporting offices using a software release prior to 5E11 and have a need for the information that is being removed, it is recommended that you retain the associated pages as they are removed from the paper documents or the earlier copy of the CDROM.

#### 1.2.3 TERMINOLOGY

Effective with the 5E9(1) software release, the name of the 5ESS<sup>®</sup> switch was changed to be 5ESS<sup>®</sup>-2000 switch, therefore the name 5ESS<sup>®</sup> switch is no longer valid. The documentation will not be totally reissued to make the name revision. The changes will be made over time as other technical changes are required. In the interim, please assume that any reference to the 5ESS<sup>®</sup> switch is also applicable to the 5ESS<sup>®</sup>-2000 switch. It should be noted that

this name change may not have been carried forward into software influenced items such as input and output messages, Master Control Center screens, Recent Change/Verify screens, etc.

National ISDN is an evolving platform in which new features will continue to be introduced for new revenue opportunities, improved operational efficiencies, and for support of specific applications. NI 1, NI 2, and NI 3 represent specific features as documented in Bellcore SRs 1937, 2120, and 2457. The industry is migrating to an additional terminology to more specifically denote the availability of National ISDN features: NI 95, NI 96, etc. A feature is included in a specific version (such as, NI 96) if it is available by the switch vendors by the first quarter of the year.

As a result of the World Telecommunications Standardization Conference held March 1-12, 1993, the International Telegraph and Telephone Consultative Committee (CCITT), no longer exists as an organization under the International Telecommunication Union (ITU). According to the ITU, the CCITT is now referred to as the International Telecommunication Union - Telecommunication Standardization Sector (ITU-TS).

For new and revised Recommendations issued by the ITU-TS, the term "CCITT Recommendation X.xxx" will be replaced by the "ITU-T Recommendation X.xxx" designation. For a transition period from 1993 to 1997, if the Recommendation had a previous CCITT designation, the new name will include "(formerly CCITT Recommendation X.xxx)". Names of existing CCITT Recommendations will not change unless revised.

### 1.3 ORGANIZATION

This document contains the following sections:

- (1) **INTRODUCTION:** Provides a brief explanation of the contents and organization of the document.
- (2) **USER GUIDELINES:** Includes rules for finding a specific PRM in the documentation and guidelines for interpreting and analyzing PRMs.
- (3) **PRM SUMMARY:** Lists the function of each PRM.
- (4) **APPENDIXES:** Contains supplementary information for the PRM manual.
- (5) **ACRONYM LIST:** Expands acronyms used in this document.
- (6) **PRMs:** Documents processor recovery messages. Documentation is alpha-numerically sorted on the second and third groupings of hex codes.

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## 1.6 TECHNICAL ASSISTANCE

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## 1.7 REFERENCES

The other documents referenced in this manual include:

- 235-105-220, *Corrective Maintenance Procedure*.
- 235-105-250, *System Recovery Manual*.
- 235-600-500, *Asserts Manual*.
- 235-600-700, *Input Messages*.
- 235-600-750, *Output Messages*.

This document also contains information concerning the Compact Digital Exchange (CDX) and the Very Compact Digital Exchange (VCDX), which are switching systems based on the 5ESS®-2000 switch. This document is a standard 5ESS®-2000 switch document that is also applicable to the CDX and VCDX switching systems. Information applicable only to CDX or VCDX may be found in the following manuals:

- 235-120-010, *Compact Digital Exchange (CDX) Reference Guide*
- 235-120-020, *Compact Digital Exchange (CDX) User's Guide*
- 235-120-120, *Very Compact Digital Exchange (VCDX) User's Guide*

## 2. USER GUIDELINES

### 2.1 INTRODUCTION

What information is contained in a processor recovery message (PRM) format that appears on the receive-only printer (ROP)? How do I interpret it? How do I find supporting documentation? How do I know what software process generated a certain PRM? The answers to these and other questions commonly asked by users of the 5ESS®-2000 switch are answered here.

### 2.2 BACKGROUND - WHAT IS A PRM?

#### 2.2.1 Definition of PRMs

PRMs are one-line, fixed-format messages that use hexadecimal notation to print critical 5ESS®-2000 switch initialization and recovery information. PRMs are associated with the recovery of the following system entities: the administrative module (AM), the communications module (CM), and the common network interface (CNI) ring. PRMs are NOT associated with the recovery of the switching module (SM). SM initialization information is displayed using human machine (HM) output messages and Master Control Center (MCC) display pages (for example, MCC Page 1800.)

PRMs are printed on the ROP and on the emergency action interface (EAI) page at the MCC whenever the HM interface is unavailable. PRMs also are printed at times when the HM interface is available in order to deliver critical AM information reliably and immediately (for example, low-level AM initializations or AM phase triggers.)

#### 2.2.2 Function of PRMs

PRMs are used to report various events associated with AM initializations and AM fault recovery. The types of events reported include:

- Successful beginning or end of an initialization step.
- Failure of a hardware or software initialization step.
- An initialization phase trigger (that is, high-level reason for initializing.)
- An ASSERT or error report before HM is available.
- Lack of AM resources (for example, real time, message buffers.)

#### 2.2.3 PRM Sources

**Table 2-1 Major Step Codes and Associated Major Steps**

| Code (Variable m) | Major Step (Source of PRM)                    |
|-------------------|-----------------------------------------------|
| 0                 | Microcode                                     |
| 1                 | Little boot or load disk from tape (LDFT)     |
| 2                 | Processor initialization (PINIT)              |
| 3                 | Big boot                                      |
| 4                 | Kernel boot (KBOOT)                           |
| 5                 | Error interrupt handler (EIH) process         |
| 6                 | Disk driver (DKDRV) process                   |
| 7                 | Input/output processor driver (IODRV) process |
| 8                 | File manager process                          |
| 9                 | Kernel service routines                       |
| A                 | Process manager process                       |
| B                 | System integrity monitor (SIM)                |
| C                 | System integrity monitor (SIM)                |



|   |                       |
|---|-----------------------|
| D | Not used              |
| E | Application processes |

## 2.3 FINDING DOCUMENTATION ON A SPECIFIC PRM

Each PRM is associated with a unique eight-character PRM Key. The eight characters are taken from the second and third groupings of hex codes.

The manual is sorted on a straight alpha-numeric sort base on these two hex code groups.

### 2.3.1 The PRM Key

When a character in a key position is a literal, that is, will never change its value, it is shown with an uppercase letter in the key. For example, the F9 and the 3802 in F9xx-3809. When a character in a key position is variable, that is, it may take on different values, that position is written as a lowercase letter x (as shown in the previous example).

### 2.3.2 The PRM Identifier

If the leading character of a PRM identifier is **E**, then all versions of that PRM begin with an **E**, reporting information or success. These may also report problems that do not involve AM initialization (for example, EExx-CB00, EExx-7F09).

If the leading character of a PRM identifier is **F**, then all versions of that PRM begin with an **F**, reporting a problem that usually involves system-wide initialization (for example, F9xx-3802).

### 2.3.3 Meaning of Fields in the Keyblock

- (1) The identification ("ID") field of the keyblock contains the "verb" (PRM) and the PRM identifier (for example, PRM:EExx-C2A9). The information in this field also triggers the name of the PRM included in the footer of the documentation (for paper only).
- (2) The release ("RELEASE") field lists the software release or releases in which this PRM occurs.
- (3) The application ("APPLICATION") field lists the software area that originated the PRM. Only three entries are valid in the APPLICATION field. They are:
  - (a) CNI
  - (b) RTR
  - (c) 5E

### 2.3.4 Other Sections in the PRM Documentation

PRM FORMAT -- Shows the format of possible outputs for this PRM. Uppercase letters show literals. Lowercase letters show variable information. See "More Information About The PRM Format".

PRM SOURCE -- Lists the software program that originated the PRM.

FUNCTION -- Tells briefly why the PRM was generated.

PRM EXPANSION -- Gives further information than the FUNCTION. In this section, all variables shown in the FORMAT section are defined.

EXPLANATION -- Gives more information about the PRM.

CORRECTIVE ACTION -- Tells whether corrective action is needed. If corrective action is needed, tells if the software will perform the corrective action. If manual intervention is needed at this point, the CORRECTIVE ACTION section will say so and give further instructions or refer the user to other supporting documentation.

## 2.4 HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES

**CAUTION:** If software inhibits are turned on, the switch may have lost critical functionality and this fact may not be readily apparent. For more information, refer to 235-105-250, System Recovery Manual, the section called "AM Manual Initializations".

Refer to The PRM Status Area (vmda).

### 2.4.1 Background Information

During a processor recovery, each common operating system process produces a 16-digit hexadecimal success or failure PRM after execution. Approximately every 2 seconds, a PRM can be printed out on the MCC and the ROP, and sent to the switching control center (SCC).

Success PRMs are considered low priority and are therefore not always output. However, the system will guarantee that the first (oldest) failure PRM will be output to all three devices (that is, the ROP, the MCC, and the SCC).

Old PRMs generated by an operating system process or by the control unit (CU) diagnostics may be output to a device immediately after it is connected to a maintenance teletypewriter controller (MTTYC). PRMs are sent to both MTTYCs and stored in separate output buffers for each device and each CU (for example, for the ROP, there is a buffer for a PRM from CU 0 and a buffer for a PRM from CU 1). The MTTYC that is not connected to the device when the PRM is received from the emergency action interface (EAI) circuit pack will store the PRM in one of these buffers and when the device is connected it will output the PRM on the device. Therefore, very old PRMs may appear without any current reason. For this reason, a PRM that is output immediately after a device is connected should be ignored. This condition occurs after a port switch of the ROP, MCC, or SCC.

If the MTTYC is a TN983 MC4C132B1 Issue 1 or later, then only a failing PRM that is less than three minutes old or a success PRM that is less than 12 seconds old will be output when the device is connected to the MTTYC.

If a user selects the EAI PRM-TRAP option, the first failing PRM will be trapped and displayed in reverse video (light characters on dark background) on the MCC. (Refer to 235-105-110, Maintenance Requirements and Tools.) The EAI PRM-DUMP option is not operational for the TN83 and is not supported for the TN983.

If a failure PRM is output, it identifies the process encountering the failure, the reason for the failure, and in some cases, failure information.

**NOTE:** The off-line processor produces PRMs during automatic central control (CC) diagnostic phase 61 and demand CC diagnostic phase 93.

---

```
PRM_p 0123 4567 89AB CDEF zz zz zz
PRM_p 0000 0000 0000 0000 zz zz zz
PRM_p FFFF FFFF FFFF FFFF zz zz zz
```

---

**Exhibit 2-1 PRM pattern produced for CC phase 61:**

---

```

PRM_p 0123 4567 89AB CDEF zz zz zz
PRM_p AAAA AAAA AAAA AAAA zz zz zz
PRM_p 5555 5555 5555 5555 zz zz zz
PRM_p EEEE EEEE EEEE EEEE zz zz zz
PRM_p 1111 1111 1111 1111 zz zz zz
PRM_p 0000 0000 0000 0000 zz zz zz
PRM_p FFFF FFFF FFFF FFFF zz zz zz

```

---

**Exhibit 2-2 PRM pattern produced for CC phase 93:**

Disregard PRMs output on the MCC, ROP, and SCC with the patterns shown above. Also, ignore the one or two PRMs preceding either pattern if they have a D or F in position 15. (For example, ignore "PRM\_p xxxx xxxx xxxx xxxF zz zz zz" if this PRM prints immediately preceding one of the patterns shown above.)

Consult System Maintenance manual (254-303-106).

## 2.4.2 More Information About The PRM Format

This section explains Figure 2-1 in more detail. Each PRM format shows possible outputs for the PRM. Literals are represented by uppercase letters. Variable information is represented by lowercase letters.

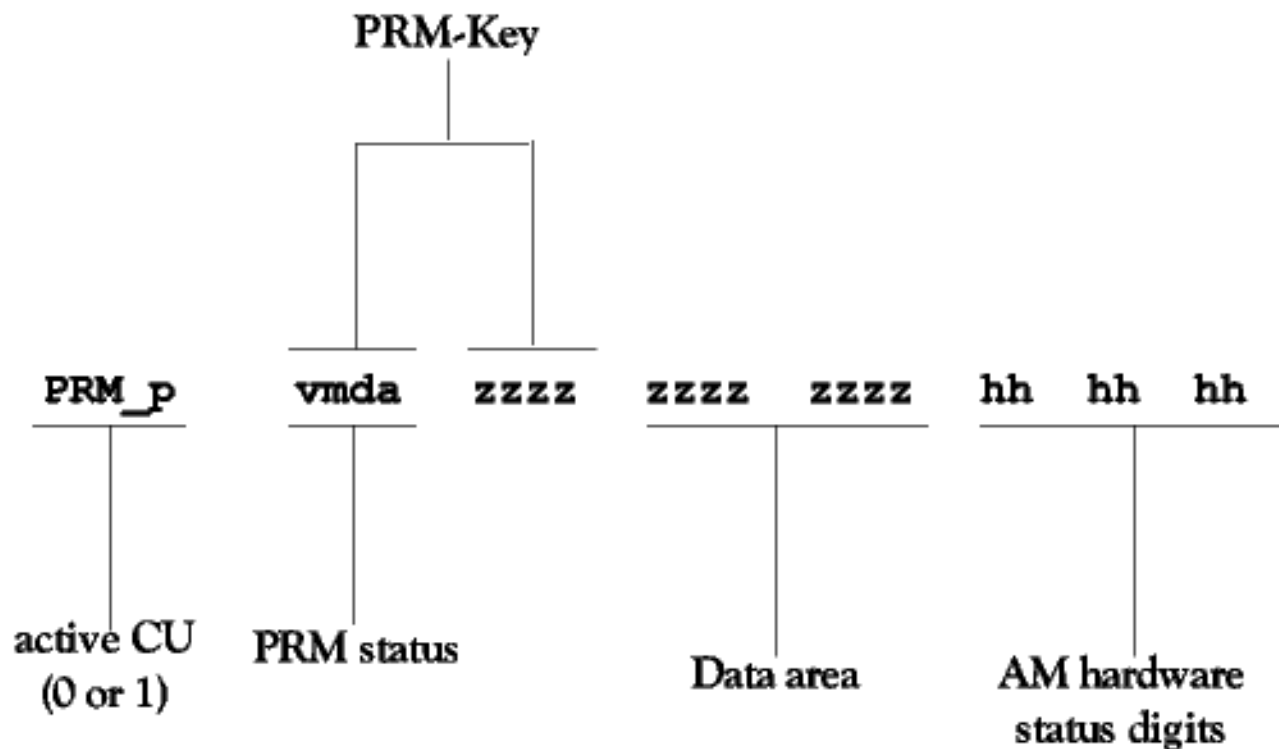


**Figure 2-1 PRM Format Outline**

### 2.4.2.1 The Control Unit (CU) Area (PRM\_p)

The **PRM\_p** here tells which control unit (CU) is active.

- 0 represents control unit 0.
- 1 represents control unit 1.

### 2.4.2.2 The PRM Status Area ( $\nabla$ m<sub>da</sub>)

( $\nabla$ ) prints as F (for failure) or E (for success).

F: reports FAILURE, usually resulting in AM recovery action.

E: reports SUCCESS or less significant failures, or simply provides information.

**NOTE:** Variable  $\nabla$  is defined differently for application phase trigger PRMs. (A "phase trigger" PRM is a PRM that reports high-level AM initialization.)

Application phase trigger PRMs can be further subdivided between those that deal with full process initialization (FPI) and those that do not.

Here is the definition for the variable  $\nabla$  for phase trigger PRMs that do not deal with FPI:

$\nabla$  = E reports that administrative module (AM) software checks are inhibited.

F reports that AM software checks are allowed. A high-level AM initialization will follow immediately.

Here is the definition for the variable  $\nabla$  for phase trigger PRMs that deal with FPI:

$\nabla$  = E reports that AM software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached.

F reports that AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

(m) represents the MAJOR step or PROCESS generating the PRM. This digit is fixed in all versions of a PRM, and is the first digit in the PRM Key. The major steps and their meanings are as follows:

0 - Microcode

A system initialization (init) can be started automatically from a number of sources, but each init starts with a maintenance reset function (MRF). When an MRF occurs, a microcoded sequence is started to initialize internal hardware registers of the processor. If the MRF occurred as part of a load-disk-from-tape (LDFT), control is then given to LDFT microcode. If the initialization includes a bootstrap, instead of the LDFT microcode, microboot microcode is entered. The LDFT microcode reads writable microcode and LDFT software from the IOP tape. The writable microcode is pumped to the writable microstore, and control is given to the LDFT software. The microboot microcode reads the VTOC, a writable microstore file, and the little boot software from disk, and passes control to the little boot software. The 0 identifier in field B indicates that microcode is the source of the PRM. Some of the 0 step PRMs indicate the progress of the init, and also indicate the type of init in progress (a stop-and-switch, a microboot, an LDFT and so forth). Others report the failure of a microboot or LDFT microcode operation.

1 - Little boot or load disk from tape (LDFT)

After microcode has been executed, little boot or LDFT software is entered. Both steps share the same PRM major step identifier of 1. LDFT software reads software release text and the AM data base from tape and writes them to disk. Little boot software loads the main bootstrap program (big

boot) into main memory. Some of the PRMs with an identifier of 1 report failures to read from tape. Others are printed when a boot from a disk fails. Little boot software passes control to the PINIT step. In contrast, when the LDFT software step completes, a manual initialization request from the Master Control Center (MCC) is required to continue recovery of the system.

## 2 - Processor initialization (PINIT)

PINIT software is entered by the little boot software, or, when there is no bootstrap, by the MRF microcode. Included in the initialization actions are deciding which processor should go on-line and, if necessary, copying the off-line processor's memory. One of the PRMs printed by this step reports a failure to copy a processor's memory. Another PRM prints when a level-2 init is escalated to a level-3, so that the ECD is loaded. When PINIT completes and there was no bootstrap, control is passed to a point in the kernel to initialize the operating system. If there was a bootstrap, big boot is entered.

## 3 - Big boot

The PRMs of the big boot software are identified by a 3, and report the failure of the software to carry out its function of loading boot file segments from disk to CU main memory. Failure to load ECD segments also will be reported. After loading each segment, the page table entries for the segment are loaded with the physical address. The types of failures that are reported during this step include the failure to initialize hardware, failure of a disk job, invalid page table parameters, and invalid ECD data. Big boot passes control to kernel boot to initialize the operating system.

## 4 - Kernel boot (KBOOT)

The extent of operating system initialization depends on whether the system was booted. If a boot occurred as a part of recovery (*UNIX*® RTR Operating System Level-2 init or higher), KBOOT software is entered. If there was no boot, the code to initialize the operating system is entered by PINIT to take the following actions:

- Every kernel process, and the supervisor process that was running at the time of the init is faulted,
- Error interrupt handler (EIH), the highest priority process, is dispatched.
- System integrity monitor (SIM) sends a message, when requested, to an application dedicated port. The process attached to the port controls the application initialization procedure.

If KBOOT is entered, the following operating system initialization actions occur:

- Interrupts are enabled.
- The highest priority process in the boot image is started, followed by the lower priority processes.
- Separate address spaces are constructed for the kernel and each root process.
- Kernel, supervisor, and special processes are created.
- Initialization messages are sent to the process and file managers.
- Public libraries are loaded from disk.

The identifier-4 PRMs report failures to create processes or to find public libraries on disk, a failure to allocate an init message for a process, a failure to create a segment for the interrupt stack, a public library, or a kernel segment table, etc.

5 - Error interrupt handler (EIH)

The EIH process is the highest priority kernel process that is started by initialization of the operating system. It is entered to respond to hardware interrupts, to failure returns from kernel calls, and to failure returns from OSTs. EIH issues PRMs that report failures detected by system primitives, report timeouts of an I/O operation, report the failure of an attempt to "soft" switch a CU, and so forth.

6 - Disk Driver (DKDRV)

DKDRV is a kernel process that manages all DFC related activities. The DKDRV provides all the interface functions to control the transfer of data between system memory and a moving head disk (MHD). During init, DKDRV builds internal tables, reads records from the ECD for all DFCs, SBUSs (if SCSI), and MHDs. DKDRV also restores to service all DFCs, SBUSs, and one of every logical disk. A failure during any one of these steps will result in a DKDRV PRM. Only if the failure involves an essential function will the PRM be fatal.

7 - Input/output processor driver (IODRV)

IODRV is a kernel process that manages all IOP related I/O, which includes normal activities, fault recognition, recovery, and manually requested activities. The peripheral devices controlled by IODRV are TTYs attached to the teletype controller (TTYC), and to the maintenance teletype controller (MTTYC), BX.25 data links, magnetic tape drives, and scanners and signal distributors. Device handlers in IODRV, which are collections of C-language functions, interface between supervisor or kernel processes and the peripheral devices. The PRMs output by IODRV include reports of failure to restore data links to service, failure of software initialization of IODRV, and failure of IODRV's memory facility to grow or add a memory segment.

8 - File manager

The functions performed by the file manager include locating files and devices, opening files and special device files, checking the access permission of a user, verifying that I/O device handlers are enabled, and translating I/O requests for logical files. *UNIX*® RTR Operating System files, and application object files and databases are supported by the file manager. The PRMs report an invalid major device number found during buffer management, an unmounted file system found during buffer management, failure of attachment to ECD, etc.

9 - Kernel service routines

The memory manager and the scheduler, which are special system processes, share the identifier 9 with the kernel service routines. These two processes, unlike other kernel processes, are bound into the kernel address space to allow them easy access to the system data structures. In carrying out its function of scheduling all supervisor and user processes, the scheduler selects the next process to be executed, and handles terminations. The primary function of the memory manager is to respond to a message request from the scheduler to load into memory the swappable segments of a supervisor process. The memory manager also responds to a message from the process manager to process lock a segment. The same message is used at boot time to create the segments for a kernel process. The implementation of operating system trap (OST) calls is done by other memory manager C functions.

The kernel's service routines implement system primitives and include a process dispatcher and a trap handler. Some examples of the functions provided by primitives include sending and receiving messages and events and waking processes, setting and getting the time of day, attaching to and detaching from interrupts, and setting a timer to cause a timeout event.

PRMs with an identifier of 9 report failures, such as finding a bad SDE pointer after a bad OST,

identifying an unattached interrupt firing more than five times in the last second, finding an invalid process mode in the program status word, faulting of the kernel while handling an OST, and running out of hold descriptor blocks.

A - Process manager

The process manager is a supervisor process that responds to a p\_creat message from another process that is already running. It responds by building the memory images of the segments required by the new process. If a segment already exists and it can be shared, it will be used by the new process. If a segment does not exist, it is created. Process manager PRMs report a failure to open a kernel buffer segment, failure to open an ECD text segment, and failure of the file manager to open the root file system, etc.

B-C - System integrity monitor (SIM)

The *UNIX*® RTR Operating System integrity monitor (SIM) maintains and monitors the integrity of the *UNIX*® RTR Operating System. SIM, which is a kernel boot process, is initiated by the kernel after process control process error interrupt handler (PCPEIH) detects an error during a system bootstrap. One of SIM's main functions during a system bootstrap is to verify that all essential boot processes are initialized correctly. SIM must receive an initialization status message from each boot process within a specified time interval. If a message is not received from every process, SIM will reboot the system. Another function of SIM is to provide a sanity timer that is used by AIM to ensure that application processes are sane and are being scheduled by the operating system. Other functions of SIM include administering hardware sanity timers in both the on-line and off-line CUs, creating and monitoring the ULARP process, monitoring *UNIX*® RTR Operating System overload conditions, administering *UNIX*® RTR Operating System AUDITS, and providing an interface between *UNIX*® RTR Operating System and AIM. PRMs from SIM report a failure to get an init message from an essential process, a failure to init the overload control system, a failure to execute ULARP, and so forth.

E - Application software

If variable *m* is E, then the PRM is generated by one of the following application processes, possibly in response to a stimulus from communications module hardware:

- (1) Application integrity monitor (AIM),
- (2) Partition mounting kernel process (PMKP),
- (3) Process to load office dependent data (ODD) into protected application segment (PAS) (PLOP),
- (4) Process to load the disk ODD onto disk (PLOD),
- (5) Switch maintenance kernel process (SMKP),
- (6) Common network interface (CNI),
- (7) Common channel signaling/common network interface (CCS/CNI).
- (8) Common network interface initialization (CNIINIT).

AIM application PRMs can be further broken down into minor steps. These minor steps indicate application processes, or processes within the 5ESS®-2000 switch application PRM software.

- (d) is the *UNIX*® RTR Operating System initialization level. *UNIX*® RTR Operating System levels D0 through D4

are represented by single digits 0-4.

- (a) is the application initialization level counter. It is also called the "number of automatic phase requests." This generally corresponds to the count of repeats of automatic initializations at level (d), but may be changed by the nature and severity of the recovery action that the switch is taking.

#### 2.4.2.3 The PRM Key (vmda zzzz)

These digits provide a unique identifier for each PRM. See The PRM Key.

#### 2.4.2.4 The Data Area (zzzz zzzz)

This is the information area for a particular version of the PRM; the contents usually change from one version to another. If more than one variable needs to be defined here, the PRM FORMAT section will represent the additional variables by showing other letters here, starting at the end of the alphabet and working backwards.

For example, PRM:E7xx-01xx has this PRM FORMAT:

```
PRM_p E7da 01wx xxyy zzzz hh hh hh
```

#### 2.4.2.5 The Hardware Status Digits (hh hh hh)

The six digits in this area indicate the AM hardware status at the time the PRM was generated.

As Figure 2-2 shows, the digit values for the hardware status digits are 16 through 21. Each of these digits is explained in detail in Figures 2-3 through 2-8.

|                 |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| Letter code:    | v | m | d | a | z | z | z | z | z | z | z  | z  | z  | z  | z  | z  | h  | h  | h  | h  | h  | h  |
| Digit Position: | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |

**Figure 2-2 Letter Codes and Digit Values for PRM Format Outline**

Digits 16-21 represent the hardware status of the PRM. All digits are active (set) in the transistor/transistor logic (TTL) high state (1). The layout of these digits is as follows.

Digit 16 = Emergency action interface (EAI) status digit. The bits are numbered from right to left as follows.

| <b>BIT</b> | <b>3</b>                      | <b>2</b>                                    | <b>1</b>             | <b>0</b>                                |
|------------|-------------------------------|---------------------------------------------|----------------------|-----------------------------------------|
|            | <b>POWER<br/>UP<br/>(RST)</b> | <b>CENTER<br/>CONTROL (CC)<br/>UNIT RUN</b> | <b>CC<br/>ACTIVE</b> | <b>EAI-ALL<br/>SEEMS WELL<br/>(ASE)</b> |

**Figure 2-3 Hardware Status Bits (Part 1 of 6)**

**BIT 3: RST** = Indicates that the EAI has gone through a power-up restart. This bit will remain set until being read by the maintenance teletypewriter (MTTY) controller.

**BIT 2: RUN** = Indicates that the associated administrative module (AM) is executing main store instructions. This bit is defined as the logical AND of NOT stopped (system status register ([SSR] bit 28) and NOT halted (SSR bit 17).



BIT 1: ACTIVE = Indicates that the associated administrative module (AM) is on-line (SSR bit 16).

BIT 0: ASW = Indicates that the EAI thinks that all seems well (that is, no internal faults or EA output errors have been detected by EAI audit or self-test firmware).

Digit 17 = EAI status digit. The bits are numbered from right to left as follows.

| BIT | 3                  | 2                    | 1                                          | 0                                          |
|-----|--------------------|----------------------|--------------------------------------------|--------------------------------------------|
|     | <b>NEW<br/>PRM</b> | <b>MRF<br/>START</b> | <b>PULSE POINT<br/>REGISTER<br/>BIT 23</b> | <b>PULSE POINT<br/>REGISTER<br/>BIT 22</b> |

**Figure 2-4 Hardware Status Bits (Part 2 of 6)**

BIT 3: PRM = Indicates that a processor recovery message has been received from the administrative module (AM). This bit will remain set until being read by the MTTY controller.

BIT 2: SPR = Indicates that a processor recovery maintenance reset function (MRF) has started. This bit will remain set until being read by the MTTY controller.

BIT 1: PP23 = Gives the last active state of pulse point (PP) 23, from the administrative module (AM), which indicates that the input data is to be used as the new input parameter buffer array pointer (AP).

BIT 0: PP22 = Gives the last active state of pulse point 22, from the administrative module (AM), which indicates that the input data is to be stored at the location indicated by the AP. The AP will then be incremented.

**NOTE:** When both BIT 0 and BIT 1 (PP22 and PP23) are asserted this indicates the start of an AM initialization.

Digit 18 = EAI status digit. The bits are numbered from right to left as follows.

| BIT | 3                       | 2                     | 1                       | 0                         |
|-----|-------------------------|-----------------------|-------------------------|---------------------------|
|     | <b>IPB<br/>RECEIVED</b> | <b>EAI<br/>ENABLE</b> | <b>PRIMARY<br/>DISK</b> | <b>SECONDARY<br/>DISK</b> |

**Figure 2-5 Hardware Status Bits (Part 3 of 6)**

BIT 3: IPB = Indicates that the EAI initialization parameter buffer (IPB) contains non-zero data.

BIT 2: EAEN = Indicates a force function to the AM is active or the IPB is non-zero.

BIT 1: FBDP = Indicates that a subsequent system bootstrap will be forced from the primary boot device.

BIT 0: FBDS = Indicates that a subsequent system bootstrap will be forced from the secondary boot device.

Digit 19 = EAI status digit. The bits are numbered from right to left as follows.

| <b>BIT</b> | <b>3</b>                         | <b>2</b>                          | <b>1</b>                  | <b>0</b>          |
|------------|----------------------------------|-----------------------------------|---------------------------|-------------------|
|            | <b>CC<br/>FORCED<br/>ON-LINE</b> | <b>CC<br/>FORCED<br/>OFF-LINE</b> | <b>TIMER<br/>DISABLED</b> | <b>CC<br/>MRF</b> |

**Figure 2-6 Hardware Status Bits (Part 4 of 6)**

- BIT 3: FONL = Indicates the AM central control (CC) associated with the EAI is to remain the on-line CC. The mate CC will concurrently be forced off-line (FOFL).
- BIT 2: FOFL = Indicates the AM CC associated with the EAI is to remain the off-line CC. The mate CC will concurrently be forced on-line (FONL).
- BIT 1: DTIM = Indicates the associated AM CC sanity timer is disabled.
- BIT 0: MRF = Indicates that a processor recovery maintenance reset function (MRF) has started. This bit is similar to the MRF START bit except that it is tied to the hardware signal (it does not need to be read to be cleared).

Digit 20 = Current status of inhibits. The bits are numbered from right to left as follows.

| <b>BIT</b> | <b>3</b>                                 | <b>2</b>                                                  | <b>1</b>                                 | <b>0</b>                 |
|------------|------------------------------------------|-----------------------------------------------------------|------------------------------------------|--------------------------|
|            | <b>HARDWARE<br/>CHECKS<br/>INHIBITED</b> | <b>UNIX SYSTEM<br/>ERROR<br/>INTERRUPTS<br/>INHIBITED</b> | <b>CACHE<br/>BYPASSED<br/>(NOT USED)</b> | <b>SIM<br/>INHIBITED</b> |

**Figure 2-7 Hardware Status Bits (Part 5 of 6)**

- BIT 3 = Indicates the AM's automatic hardware checks have been inhibited. The specific checks inhibited are: parity checking (on the address translation bus, instruction bus, source bus, micro-controller, cache), clock checking errors, My store error A, main store timeout error, data manipulation unit error, and store address controller error.
- BIT 2 = Indicates that reporting of non-fatal errors has been inhibited for all units.
- BIT 1 = The AM's high speed cache unit is not being used.
- BIT 0 = Indicates the system integrity monitor (SIM) process has been prevented from initiating any action to recover from a fault.

Digit 21 = Configuration control options. The bits are numbered from right to left as follows.

| <b>BIT</b> | <b>3</b>                                     | <b>2</b>                                        | <b>1</b>      | <b>0</b>      |
|------------|----------------------------------------------|-------------------------------------------------|---------------|---------------|
|            | <b>BACKUP<br/>FILE SYSTEM<br/>BEING USED</b> | <b>MINIMUM<br/>CONFIGURATION<br/>BEING USED</b> | <b>UNUSED</b> | <b>UNUSED</b> |

**Figure 2-8 Hardware Status Bits (Part 6 of 6)**

- BIT 3 = Indicates the AM has been booted using the backup root file system.
- BIT 2 = Indicates the AM has been booted in the minimum configuration mode. Application software and hardware has been disabled.
- BIT 1 = UNUSED (Also undefined - may be 0 or 1).
- BIT 0 = UNUSED (Also undefined - may be 0 or 1).

### **2.4.3 For Further Information**

For more information about breaking down a PRM, read the section called "Analyze Administrative Module (AM) Initialization Failure", in the System Recovery Manual (235-105-250).

### **3. PRM Summary**

## PRM SUMMARY

### 1. PRM SUMMARY

Use this PRM Summary as a quick reference guide to PRMs.

Listed here are the message ID, software release and function for each PRM in this manual.

#### 1.1 MAJOR STEP 0 - PROCESSOR INITIALIZATION MICROCODE

| Message ID/ Release             | Function                                                                                                                                                                                     |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRM:0000-0000<br>5E10 and later | CC Diagnostic Phase.                                                                                                                                                                         |
| PRM:E0xx-0100<br>5E10 and later | Maintenance reset function (MRF) microcode initialized the processor and exited to PINIT software.                                                                                           |
| PRM:E0xx-0200<br>5E10 and later | Maintenance reset function (MRF) microcode initialized the processor and executed a microcode stop and switch (SAS).                                                                         |
| PRM:E0xx-030x<br>5E10 and later | Maintenance reset function (MRF) microcode initialized the processor and successfully executed microboot using disk file controller 0 (DFC0).                                                |
| PRM:E0xx-0400<br>5E10 and later | The maintenance reset function (MRF) microcode executed a power-up initialization of the processor.                                                                                          |
| PRM:E0xx-0500<br>5E10 and later | The maintenance reset function (MRF) microcode was prevented from escalating to a full bootstrap by the no disk independent operation (DIOP) indicator and exited to PINIT software instead. |
| PRM:E0xx-0600<br>5E10 and later | The maintenance reset function (MRF) microcode initialized the processor and then successfully executed the microcode portion of the load disk from tape (LDFT) feature.                     |
| PRM:E0xx-070x<br>5E10 and later | The maintenance reset function (MRF) microcode initialized the processor and successfully executed microboot using disk file controller 1 (DFC 1).                                           |
| PRM:E0xx-xxxx<br>5E10 and later | The CC microcode has generated a PRM code which is to be ignored.                                                                                                                            |
| PRM:F0xx-080x<br>5E10 and later | Microboot - volume table of contents (VTOC) job - Unable to initialize the path to disk file controller 0 (DFC 0) in a bootstrap.                                                            |
| PRM:F0xx-0900<br>5E10 and later | Microboot - volume table of contents (VTOC) job - direct memory access controller (DMAC) setup failed using disk file controller 0 (DFC 0).                                                  |
| PRM:F0xx-0A0x<br>5E10 and later | Microboot - volume table of contents (VTOC) job - initialization of the bus interface controller (BIC) in disk file controller 0 (DFC 0) failed.                                             |
| PRM:F0xx-0B0x<br>5E10 and later | Microboot - volume table of contents (VTOC) job initialization of the peripheral interface controller (PIC) in disk file controller 0 (DFC 0) failed.                                        |
| PRM:F0xx-0C0x<br>5E10 and later | Microboot - volume table of contents (VTOC) job - DFC "boot" command failed using disk file controller 0 (DFC 0).                                                                            |
| PRM:F0xx-0D0x<br>5E10 and later | Microboot - volume table of contents (VTOC) job - read VTOC disk job timed out using disk file controller 0 (DFC 0).                                                                         |
| PRM:F0xx-0E0x<br>5E10 and later | Microboot - volume table of contents (VTOC) job - read VTOC disk job errors using disk file controller 0 (DFC 0).                                                                            |
| PRM:F0xx-0F0x<br>5E10 and later | Microboot - volume table of contents (VTOC) job - read VTOC disk job successful using disk file controller 0 (DFC 0) but it does not have a little boot partition.                           |
| PRM:F0xx-100x<br>5E10 and later | Microboot — writable central control (CC) microcode job — extract information from volume table of contents (VTOC) for disk file controller 0 (DFC 0).                                       |
| PRM:F0xx-110x<br>5E10 and later | Microboot - writable central control (CC) microcode job - direct memory access controller (DMAC) setup failed using disk file controller 0 (DFC 0).                                          |
| PRM:F0xx-140x<br>5E10 and later | Microboot - writable central control (CC) microcode job - DFC "boot" command failed using disk file controller 0 (DFC 0).                                                                    |
| PRM:F0xx-150x<br>5E10 and later | Microboot - writable central control (CC) microcode job - read microcode disk job timed out using disk file controller 0 (DFC 0).                                                            |
| PRM:F0xx-160x<br>5E10 and later | Microboot - writable central control (CC) microcode job - read microcode disk job errors using disk file controller 0 (DFC 0).                                                               |
| PRM:F0xx-170x<br>5E10 and later | Microboot - writable central control (CC) microcode job - bad CC microcode file from disk file controller 0 (DFC 0).                                                                         |
| PRM:F0xx-180x                   | Microboot - little boot job - error while preparing to read little boot file from disk file                                                                                                  |

|                                 |                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5E10 and later                  | controller 0 (DFC 0).                                                                                                                                                                                                                                                                                                                                           |
| PRM:F0xx-190x<br>5E10 and later | Microboot - little boot job - direct memory access controller (DMAC) setup failed using disk file controller 0 (DFC 0).                                                                                                                                                                                                                                         |
| PRM:F0xx-1C0x<br>5E10 and later | Microboot - little boot job - DFC "boot" command failed using disk file controller 0 (DFC 0).                                                                                                                                                                                                                                                                   |
| PRM:F0xx-1D0x<br>5E10 and later | Microboot - little boot job - read little boot disk job timed out using disk file controller 0 (DFC 0).                                                                                                                                                                                                                                                         |
| PRM:F0xx-1E0x<br>5E10 and later | Microboot - little boot job - read little boot disk job errors using disk file controller 0 (DFC 0).                                                                                                                                                                                                                                                            |
| PRM:F0xx-2000<br>5E10 and later | Load disk from tape (LDFT) - disk not forced.                                                                                                                                                                                                                                                                                                                   |
| PRM:F0xx-210x<br>5E10 and later | Load disk from tape (LDFT) - unable to initialize the path to the disk file controller (DFC).                                                                                                                                                                                                                                                                   |
| PRM:F0xx-220x<br>5E10 and later | Load disk from tape (LDFT) - peripheral interface controller (PIC) initialization failed.                                                                                                                                                                                                                                                                       |
| PRM:F0xx-230x<br>5E10 and later | Load disk from tape (LDFT) - unable to initialize the path to the selected tape unit [disk file controller (DFC) or input output processor (IOP)], or LDFT - direct memory access controller (DMAC) setup for tape failed. This is a continuation of the initialization process. The previous steps have completed successfully (see PRMs F0-210x and F0-220x). |
| PRM:F0xx-2400<br>5E10 and later | Load disk from tape (LDFT) - quick system generation (SYSGEN) of input/output processor (IOP) failed.                                                                                                                                                                                                                                                           |
| PRM:F0xx-2500<br>5E10 and later | Load disk from tape (LDFT) - bad status from tape controller.                                                                                                                                                                                                                                                                                                   |
| PRM:F0xx-2600<br>5E10 and later | Load disk from tape (LDFT) - tape rewind failed.                                                                                                                                                                                                                                                                                                                |
| PRM:F0xx-2700<br>5E10 and later | Load disk from tape (LDFT) - tape read of LDFT header failed.                                                                                                                                                                                                                                                                                                   |
| PRM:F0xx-2800<br>5E10 and later | Load disk from tape (LDFT) - bad LDFT header information.                                                                                                                                                                                                                                                                                                       |
| PRM:F0xx-2900<br>5E10 and later | Load disk from tape (LDFT) - tape read of microcode file failed.                                                                                                                                                                                                                                                                                                |
| PRM:F0xx-2A00<br>5E10 and later | Load disk from tape (LDFT) - invalid microcode file.                                                                                                                                                                                                                                                                                                            |
| PRM:F0xx-2B00<br>5E10 and later | Load disk from tape (LDFT) - tape read of LDFT header failed.                                                                                                                                                                                                                                                                                                   |
| PRM:F0xx-2C00<br>5E10 and later | Load disk from tape (LDFT) - bad LDFT header information.                                                                                                                                                                                                                                                                                                       |
| PRM:F0xx-2D00<br>5E10 and later | Load disk from tape (LDFT) - tape read of LDFT software failed.                                                                                                                                                                                                                                                                                                 |
| PRM:F0xx-2E00<br>5E10 and later | Load disk from tape (LDFT) - bus interface controller (BIC) initialization or duplex dual serial bus selector (DDSBS) initialization for disk failed.                                                                                                                                                                                                           |
| PRM:F0xx-2F00<br>5E10 and later | Load disk from tape (LDFT) - peripheral interface controller (PIC) initialization for disk failed.                                                                                                                                                                                                                                                              |
| PRM:F0xx-3000<br>5E10 and later | Load disk from tape (LDFT) - no tape-only program (TOP) tape has been read.                                                                                                                                                                                                                                                                                     |
| PRM:F0xx-3100<br>5E10 and later | Load disk from tape (LDFT) - control unit (CU) not forced.                                                                                                                                                                                                                                                                                                      |
| PRM:F0xx-480x<br>5E10 and later | Microboot - volume table of contents (VTOC) job - Unable to initialize the path to disk file controller 1 (DFC 1) in a bootstrap.                                                                                                                                                                                                                               |
| PRM:F0xx-4900<br>5E10 and later | Microboot - volume table of contents (VTOC) job - direct memory access controller (DMAC) setup failed using disk file controller 1 (DFC 1).                                                                                                                                                                                                                     |
| PRM:F0xx-4A0x<br>5E10 and later | Microboot - volume table of contents (VTOC) job - initialization of the bus interface controller (BIC) in disk file controller 1 (DFC 1) failed.                                                                                                                                                                                                                |
| PRM:F0xx-4B0x<br>5E10 and later | Microboot - volume table of contents (VTOC) job initialization of the peripheral interface controller (PIC) in disk file controller 1 (DFC 1) failed.                                                                                                                                                                                                           |
| PRM:F0xx-4C0x<br>5E10 and later | Microboot - volume table of contents (VTOC) job - DFC "boot" command failed using disk file controller 1 (DFC 1).                                                                                                                                                                                                                                               |
| PRM:F0xx-4D0x<br>5E10 and later | Microboot - volume table of contents (VTOC) job - read VTOC disk job timed out using disk file controller 1 (DFC 1).                                                                                                                                                                                                                                            |
| PRM:F0xx-4E0x                   | Microboot - volume table of contents (VTOC) job - read VTOC disk job errors using                                                                                                                                                                                                                                                                               |

|                |                                                                                                |
|----------------|------------------------------------------------------------------------------------------------|
| 5E10 and later | disk file controller 1 (DFC 1).                                                                |
| PRM:F0xx-4F0x  | Microboot - volume table of contents (VTOC) job - read VTOC disk job successful                |
| 5E10 and later | using disk file controller 1 (DFC 1) but it does not have a little boot partition.             |
| PRM:F0xx-500x  | Microboot — writable central control (CC) microcode job — extract information from             |
| 5E10 and later | volume table of contents (VTOC) for disk file controller 1 (DFC 1).                            |
| PRM:F0xx-510x  | Microboot - writable central control (CC) microcode job - direct memory access                 |
| 5E10 and later | controller (DMAC) setup failed using disk file controller 1 (DFC 1).                           |
| PRM:F0xx-540x  | Microboot - writable central control (CC) microcode job - DFC "boot" command failed            |
| 5E10 and later | using disk file controller 1 (DFC 1).                                                          |
| PRM:F0xx-550x  | Microboot - writable central control (CC) microcode job - read microcode disk job              |
| 5E10 and later | timed out using disk file controller 1 (DFC 1).                                                |
| PRM:F0xx-560x  | Microboot - writable central control (CC) microcode job - read microcode disk job              |
| 5E10 and later | errors using disk file controller 1 (DFC 1).                                                   |
| PRM:F0xx-570x  | Microboot - writable central control (CC) microcode job - bad CC microcode file from           |
| 5E10 and later | disk file controller 1 (DFC 1).                                                                |
| PRM:F0xx-580x  | Microboot - little boot job - error while preparing to read little boot file from disk file    |
| 5E10 and later | controller 1 (DFC 1).                                                                          |
| PRM:F0xx-590x  | Microboot - little boot job - direct memory access controller (DMAC) setup failed              |
| 5E10 and later | using disk file controller 1 (DFC 1).                                                          |
| PRM:F0xx-5C0x  | Microboot - little boot job - DFC "boot" command failed using disk file controller 1           |
| 5E10 and later | (DFC 1).                                                                                       |
| PRM:F0xx-5D0x  | Microboot - little boot job - read little boot disk job timed out using disk file controller 1 |
| 5E10 and later | (DFC 1).                                                                                       |
| PRM:F0xx-5E0x  | Microboot - little boot job - read little boot disk job errors using disk file controller 1    |
| 5E10 and later | (DFC 1).                                                                                       |
| PRM:F0xx-5F0x  | Writable microstore loaded from disk and programmable read-only memory (PROM)                  |
| 5E10 and later | version of microcode are incompatible.                                                         |
| PRM:F0xx-6000  | The microcode read and loaded into writable microstore is incompatible with the                |
| 5E10 and later | programmable read-only memory (PROM) microcode.                                                |
| PRM:F0xx-61xx  | In load disk from tape (LDFT), the initial load command of the tape failed or timed out.       |
| 5E10 and later |                                                                                                |
| PRM:F0xx-62xx  | In load disk from tape (LDFT), the initial tape load of the tape job failed.                   |
| 5E10 and later |                                                                                                |
| PRM:F0xx-63xx  | Load disk from tape (LDFT) - initial rewind command of the tape failed or timed out.           |
| 5E10 and later |                                                                                                |
| PRM:F0xx-64xx  | Load disk from tape (LDFT) - initial rewind of tape job failed.                                |
| 5E10 and later |                                                                                                |
| PRM:F0xx-65xx  | Load disk from tape (LDFT) - tape read of file header failed or timed out.                     |
| 5E10 and later |                                                                                                |
| PRM:F0xx-66xx  | Load disk from tape (LDFT) - tape read of file header record failed.                           |
| 5E10 and later |                                                                                                |
| PRM:F0xx-67xx  | Load disk from tape (LDFT) - bad file record header information.                               |
| 5E10 and later |                                                                                                |
| PRM:F0xx-68xx  | Load disk from tape (LDFT) - command to skip to end-of-file marker on a LDFT tape              |
| 5E10 and later | failed or timed out.                                                                           |
| PRM:F0xx-69xx  | Load disk from tape (LDFT) - job to skip to end-of-file marker failed.                         |
| 5E10 and later |                                                                                                |
| PRM:F0xx-6Axx  | Load disk from tape (LDFT) - tape read of microcode file command failed or timed               |
| 5E10 and later | out.                                                                                           |
| PRM:F0xx-6Bxx  | Load disk from tape (LDFT) - tape read of microcode job file failed.                           |
| 5E10 and later |                                                                                                |
| PRM:F0xx-6Cxx  | Load disk from tape (LDFT) - invalid microcode file.                                           |
| 5E10 and later |                                                                                                |
| PRM:F0xx-6Dxx  | Load disk from tape (LDFT) - tape read of LDFT software file header command failed             |
| 5E10 and later | or timed out.                                                                                  |
| PRM:F0xx-6Exx  | Load disk from tape (LDFT) - tape read of LDFT software file header job failed.                |
| 5E10 and later |                                                                                                |
| PRM:F0xx-6Fxx  | Load disk from tape (LDFT) - bad LDFT software header information.                             |
| 5E10 and later |                                                                                                |
| PRM:F0xx-70xx  | Load disk from tape (LDFT) - tape read of LDFT software command failed or timed                |
| 5E10 and later | out.                                                                                           |

|                                 |                                                                                                                                                                                                                             |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRM:F0xx-71xx<br>5E10 and later | Load disk from tape (LDFT) - tape read of LDFT software failed.                                                                                                                                                             |
| PRM:F0xx-F0xx<br>5E10 and later | The common control (CC) microcode has encountered a failure condition and will cause a restart at the maintenance reset function (MRF) micro-interrupt address. This PRM will result in a level 1 or higher initialization. |
| PRM:F0xx-xxxx<br>5E10 and later | The CC microcode has generated a PRM code which is to be ignored.                                                                                                                                                           |

## 1.2 MAJOR STEP 1 - LITTLE BOOT AND LOAD DISK FROM TAPE

| Message ID/Release              | Function                                                                                                               |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------|
| PRM:F1xx-0100<br>5E10 and later | Initializing the bus interface controller (BIC) of the boot disk file controller (DFC).                                |
| PRM:F1xx-0400<br>5E10 and later | Initializing the peripheral interface controller (PIC) of the boot disk file controller (DFC).                         |
| PRM:F1xx-0500<br>5E10 and later | Failed to find the big boot file entry in the disk volume table of contents (VTOC).                                    |
| PRM:F1xx-0700<br>5E10 and later | Initializing the direct memory access controller (DMAC) random access memory (RAM).                                    |
| PRM:F1xx-0A00<br>5E10 and later | Failed to find an entry in the disk volume table of contents (VTOC).                                                   |
| PRM:F1xx-0B00<br>5E10 and later | Disk job timed out.                                                                                                    |
| PRM:F1xx-10xx<br>5E10 and later | Disk job failed.                                                                                                       |
| PRM:1111-1111<br>5E10 and later | CC Diagnostic Phase.                                                                                                   |
| PRM:F1xx-2000<br>5E10 and later | Page table initialization routine called with invalid parameter.                                                       |
| PRM:F1xx-2100<br>5E10 and later | Channel error during programmed input/output (I/O) system generation (SYSGEN) command to disk.                         |
| PRM:F1xx-22xx<br>5E10 and later | Disk job failed.                                                                                                       |
| PRM:0123-4567<br>5E10 and later | CC Diagnostic Phase.                                                                                                   |
| PRM:E1xx-51xx<br>5E10 and later | Mount first tape that has disk data on it.                                                                             |
| PRM:F1xx-5200<br>5E10 and later | Wrong tape mounted.                                                                                                    |
| PRM:F1xx-5300<br>5E10 and later | Sequence number of tape not correct.                                                                                   |
| PRM:E1xx-54xx<br>5E10 and later | Tape version information.                                                                                              |
| PRM:F1xx-55xx<br>5E10 and later | Wrong tape.                                                                                                            |
| PRM:F1xx-56xx<br>5E10 and later | Tape header is invalid.                                                                                                |
| PRM:E1xx-5700<br>5E10 and later | To periodically output (in hexadecimal) the total number of tape blocks read, so far, from the currently mounted tape. |
| PRM:E1xx-58xx<br>5E10 and later | Mount next tape.                                                                                                       |
| PRM:E1xx-59xx<br>5E10 and later | All of the software release or database data has been loaded.                                                          |
| PRM:E1xx-68xx<br>5E10 and later | Mount next tape after consulting your technical support center.                                                        |
| PRM:E1xx-69xx<br>5E10 and later | All of the software release or database data has been loaded with hash-sum mismatches detected.                        |
| PRM:F1xx-6000<br>5E10 and later | Bad tape.                                                                                                              |
| PRM:F1xx-6100<br>5E10 and later | High-priority tape job failed.                                                                                         |



|                                 |                                                                                                          |
|---------------------------------|----------------------------------------------------------------------------------------------------------|
| PRM:F1xx-6200<br>5E10 and later | Bus interface controller (BIC) is locked up.                                                             |
| PRM:F1xx-6300<br>5E10 and later | Tape job or disk job timed out.                                                                          |
| PRM:F1xx-6400<br>5E10 and later | Direct memory access controller (DMAC) initialization failure.                                           |
| PRM:F1xx-6500<br>5E10 and later | Microcode passed a bad parameter.                                                                        |
| PRM:F1xx-6600<br>5E10 and later | Bad block size in tape header.                                                                           |
| PRM:F1xx-6700<br>5E10 and later | The database was not loaded on disk in the same system (backup or primary) as the software release data. |
| PRM:F1xx-6800<br>5E10 and later | Wrong tape was loaded.                                                                                   |
| PRM:F1xx-6900<br>5E10 and later | Wrong tape mounted.                                                                                      |
| PRM:F1xx-7000<br>5E10 and later | Wrong tape mounted.                                                                                      |
| PRM:E1xx-7100<br>5E10 and later | Bad hash sum on tape.                                                                                    |
| PRM:F1xx-7200<br>5E10 and later | Disk job failed.                                                                                         |
| PRM:E1xx-7400<br>5E10 and later | LDFT Program version information.                                                                        |
| PRM:E1xx-8800<br>5E10 and later | Disk format is in progress.                                                                              |
| PRM:E1xx-8900<br>5E10 and later | Wrong disk format parameter set for small computer system interface (SCSI) moving head disk (MHD).       |
| PRM:E1xx-983B<br>5E10 and later | A PRM is generated after hash-sum mismatches have been detected.                                         |
| PRM:E1xx-993B<br>5E10 and later | Waiting for next tape to be mounted.                                                                     |
| PRM:E1xx-DDxx<br>5E10 and later | Disk data (previously known as all-seems-well function).                                                 |

### 1.3 MAJOR STEP 2 - PROCESSOR INITIALIZATION

| Message ID/Release              | Function                                                                                                                                                                                      |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRM:E2xx-010x<br>5E10 and later | Control unit (CU) is going off-line.                                                                                                                                                          |
| PRM:F2xx-02xx<br>5E10 and later | Enabling hardware checks with an error source present.                                                                                                                                        |
| PRM:E2xx-03xx<br>5E10 and later | Full memory copy from off-line to on-line.                                                                                                                                                    |
| PRM:E2xx-0400<br>5E10 and later | Indication that a manually requested <i>UNIX</i> <sup>®</sup> RTR Operating System level 2 (52 on emergency action interface [EAI]) was incremented to an administrative module (AM) level 3. |
| PRM:E2xx-0500<br>5E10 and later | Status indicator which is output approximately every 5 seconds during a memory copy.                                                                                                          |
| PRM:E2xx-0600<br>5E10 and later | Manual initialization used the primary partition for booting.                                                                                                                                 |
| PRM:E2xx-0700<br>5E10 and later | A PINIT was unable to pump microcode to the off-line microstore.                                                                                                                              |
| PRM:F2xx-0800<br>5E10 and later | A PINIT was unable to copy memory from the off-line processor to the on-line.                                                                                                                 |
| PRM:F2xx-09xx<br>5E10 and later | PINIT encountered non-correctable memory error while copying memory from the off-line control unit (CU) to the on-line CU after a stop and switch (SAS).                                      |
| PRM:E2xx-0A0x<br>5E10 and later | PINIT during boot detected errors in the error register or the micro error register.                                                                                                          |
| PRM:E2xx-0B00<br>5E10 and later | PINIT collected post mortem data and found sanity timer timeouts.                                                                                                                             |

|                                 |                                                                                              |
|---------------------------------|----------------------------------------------------------------------------------------------|
| PRM:E2xx-0C00<br>5E10 and later | PINIT collected postmortem data and found there were more off-line cache registers to read.  |
| PRM:E2xx-0Dxx<br>5E10 and later | Panic dump status information.                                                               |
| PRM:E2xx-0Fxx<br>5E10 and later | PINIT detected a failure during off-line boot (OFLBOOT).                                     |
| PRM:F2xx-0Fxx<br>5E10 and later | PINIT detected a failure during off-line boot (OFLBOOT).                                     |
| PRM:F2xx-2100<br>5E10 and later | Channel error during programmed input/output system generation (I/O SYSGEN) command to disk. |
| PRM:E2xx-ABD0<br>5E13 and later | Report that the boot level was escalated from level 52 to level 53.                          |
| PRM:E2xx-DDxx<br>5E10 and later | Disk data (previously known as all-seems-well function).                                     |

#### 1.4 MAJOR STEP 3 - BIG BOOT

| Message ID/Release              | Function                                                                                                                                                                   |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRM:F3xx-0100<br>5E10 and later | Initializing the bus interface controller (BIC) of the boot disk file controller (DFC).                                                                                    |
| PRM:F3xx-0200<br>5E10 and later | Initializing the peripheral interface controller (PIC) of the boot disk file controller (DFC).                                                                             |
| PRM:F3xx-0300<br>5E10 and later | Initializing the peripheral interface controller (PIC) for the boot disk file controller (DFC).                                                                            |
| PRM:F3xx-0400<br>5E10 and later | Failed to find the disk volume table of contents (VTOC) entry for the partition that contains the file being loaded.                                                       |
| PRM:F3xx-0500<br>5E10 and later | Boot root file or boot time data base file not located.                                                                                                                    |
| PRM:F3xx-0600<br>5E10 and later | Boot root file or boot time database file not located.                                                                                                                     |
| PRM:F3xx-07xx<br>5E10 and later | Big Boot encountered non-correctable memory error while copying memory from the off-line control unit (CU) to the on-line CU after a stop and switch (SAS).                |
| PRM:F3xx-09xx<br>5E10 and later | Disk data is faulty.                                                                                                                                                       |
| PRM:F3xx-1000<br>5E10 and later | Disk data faulty.                                                                                                                                                          |
| PRM:F3xx-2000<br>5E10 and later | Page table initialization routine called with invalid parameter.                                                                                                           |
| PRM:F3xx-21xx<br>5E10 and later | Channel error during programmed input/output system generation I/O SYSGEN command to disk.                                                                                 |
| PRM:F3xx-22xx<br>5E10 and later | Disk job failed.                                                                                                                                                           |
| PRM:F3xx-3100<br>5E10 and later | Faulty equipment configuration database (ECD).                                                                                                                             |
| PRM:F3xx-3200<br>5E10 and later | Faulty equipment configuration database (ECD).                                                                                                                             |
| PRM:F3xx-3300<br>5E10 and later | Faulty equipment configuration database (ECD).                                                                                                                             |
| PRM:F3xx-340x<br>5E10 and later | Failure occurred during the read operation of the maintenance registers in the on-line memory controller. This is being done to determine the amount of memory available.  |
| PRM:F3xx-3500<br>5E10 and later | Insufficient main memory in the on-line control unit (CU).                                                                                                                 |
| PRM:E3xx-360x<br>5E10 and later | Failure occurred during the read operation of the maintenance registers in the off-line memory controller. This is being done to determine the amount of memory available. |
| PRM:E3xx-3700<br>5E10 and later | Failure in accessing the main storage controller (MASC) unit control block (UCB) for the off-line control unit (CU).                                                       |
| PRM:E3xx-3800<br>5E10 and later | Insufficient main memory in the off-line control unit (CU).                                                                                                                |
| PRM:F3xx-5300<br>5E10 and later | Big Boot failed to read the boot image from disk.                                                                                                                          |
| PRM:F3xx-63x0                   | Disk job timed out.                                                                                                                                                        |

|                |                                                          |
|----------------|----------------------------------------------------------|
| 5E10 and later |                                                          |
| PRM:E3xx-DDxx  | Disk data (previously known as all-seems-well function). |
| 5E10 and later |                                                          |

## 1.5 MAJOR STEP 4 - KERNEL BOOT

| Message ID/Release | Function                                         |
|--------------------|--------------------------------------------------|
| PRM:F4xx-0100      | System process not created.                      |
| 5E10 and later     |                                                  |
| PRM:F4xx-0200      | Boot kernel process not created.                 |
| 5E10 and later     |                                                  |
| PRM:F4xx-0300      | Boot kernel process not created.                 |
| 5E10 and later     |                                                  |
| PRM:F4xx-0400      | Boot kernel process not created.                 |
| 5E10 and later     |                                                  |
| PRM:F4xx-0500      | Boot supervisor process not created.             |
| 5E10 and later     |                                                  |
| PRM:F4xx-0600      | Boot supervisor process not created.             |
| 5E10 and later     |                                                  |
| PRM:F4xx-0700      | Boot time message allocation.                    |
| 5E10 and later     |                                                  |
| PRM:F4xx-0800      | Boot time message allocation.                    |
| 5E10 and later     |                                                  |
| PRM:F4xx-0900      | Boot time message allocation.                    |
| 5E10 and later     |                                                  |
| PRM:F4xx-0A00      | Boot segment not created.                        |
| 5E10 and later     |                                                  |
| PRM:F4xx-0B00      | Message segment not created.                     |
| 5E10 and later     |                                                  |
| PRM:F4xx-0C00      | Dispatcher control segment not created.          |
| 5E10 and later     |                                                  |
| PRM:F4xx-0D00      | Interrupt stack segment not created.             |
| 5E10 and later     |                                                  |
| PRM:F4xx-0E00      | System port segment not created.                 |
| 5E10 and later     |                                                  |
| PRM:F4xx-0F00      | Boot process not created.                        |
| 5E10 and later     |                                                  |
| PRM:F4xx-1000      | Protected application segment (PAS) not created. |
| 5E10 and later     |                                                  |
| PRM:F4xx-1100      | Kernel segment table not created.                |
| 5E10 and later     |                                                  |
| PRM:F4xx-1200      | Protected application segment (PAS) too big.     |
| 5E10 and later     |                                                  |
| PRM:F4xx-1300      | KBOOT work segment not allocated.                |
| 5E10 and later     |                                                  |
| PRM:F4xx-1400      | Unable to complete a boot process.               |
| 5E10 and later     |                                                  |
| PRM:F4xx-1500      | Unable to complete a boot process.               |
| 5E10 and later     |                                                  |
| PRM:F4xx-1600      | Unable to read public library.                   |
| 5E10 and later     |                                                  |
| PRM:F4xx-1700      | Unable to read public library.                   |
| 5E10 and later     |                                                  |
| PRM:F4xx-1800      | Unable to read public library.                   |
| 5E10 and later     |                                                  |
| PRM:F4xx-1900      | Unable to allocate public library segment.       |
| 5E10 and later     |                                                  |
| PRM:F4xx-1A00      | Disk read timeout.                               |
| 5E10 and later     |                                                  |
| PRM:F4xx-1B00      | Disk read failure.                               |
| 5E10 and later     |                                                  |

|                                 |                                                          |
|---------------------------------|----------------------------------------------------------|
| PRM:F4xx-1C00<br>5E10 and later | Disk read failure.                                       |
| PRM:F4xx-1F00<br>5E10 and later | Unable to create segment for memory management data.     |
| PRM:F4xx-2000<br>5E10 and later | Swapsiz is less than minswsz.                            |
| PRM:E4xx-DDxx<br>5E10 and later | Disk data (previously known as all-seems-well function). |

## 1.6 MAJOR STEP 5 - ERROR INTERRUPT HANDLER

| Message ID/Release              | Function                                                                                                               |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------|
| PRM:E5xx-01xx<br>5E10 and later | &"lla_rdgetl" returned an error condition.                                                                             |
| PRM:F5xx-01xx<br>5E10 and later | The library function, lla_rdget, returned an error after trying to access the equipment configuration data base (ECD). |
| PRM:F5xx-02xx<br>5E10 and later | Failure to attach to the equipment configuration database (ECD).                                                       |
| PRM:E5xx-03xx<br>5E10 and later | lla_uprid returned an error condition.                                                                                 |
| PRM:F5xx-03xx<br>5E10 and later | lla_uprid returned an error condition.                                                                                 |
| PRM:E5xx-04xx<br>5E10 and later | lla_opensq returned an error condition.                                                                                |
| PRM:E5xx-05xx<br>5E10 and later | Unable to attach to interrupts.                                                                                        |
| PRM:E5xx-06xx<br>5E10 and later | Unable to enable interrupts.                                                                                           |
| PRM:E5xx-07xx<br>5E10 and later | Unable to disable interrupts.                                                                                          |
| PRM:E5xx-08xx<br>5E10 and later | atchchan returned an error condition. Unable to construct an attach point for an interrupt.                            |
| PRM:E5xx-09xx<br>5E10 and later | gnxt returned an error condition.                                                                                      |
| PRM:E5xx-0Axx<br>5E10 and later | topucb returned an error condition.                                                                                    |
| PRM:E5xx-0Bxx<br>5E10 and later | A bad record identifier (RID) was passed to a function.                                                                |
| PRM:E5xx-0Cxx<br>5E10 and later | chucb returned an error condition.                                                                                     |
| PRM:E5xx-0Dxx<br>5E10 and later | lla_nextseq returned an error condition.                                                                               |
| PRM:E5xx-0Exx<br>5E10 and later | rpterr returned an error condition.                                                                                    |
| PRM:E5xx-0Fxx<br>5E10 and later | sendmch returned a failure.                                                                                            |
| PRM:F5xx-0Fxx<br>5E11 and later | "sendmch" returned a failure.                                                                                          |
| PRM:F5xx-10xx<br>5E10 and later | Improper boot device.                                                                                                  |
| PRM:E5xx-11xx<br>5E10 and later | A request to remove a unit using the configuration control library (config) fault driver function returned a failure.  |
| PRM:E5xx-12xx<br>5E10 and later | lla_get function failed.                                                                                               |
| PRM:F5xx-12xx<br>5E11 and later | The "lla_get" function failed.                                                                                         |
| PRM:E5xx-13xx<br>5E10 and later | Direct memory access (DMA) channel initialization returned a failure.                                                  |
| PRM:F5xx-13xx<br>5E11 and later | Direct memory access (DMA) channel initialization returned a failure.                                                  |
| PRM:F5xx-14xx                   | A phase will be called due to a fatal direct memory access (DMA) error.                                                |

|                |                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------|
| 5E10 and later |                                                                                                                |
| PRM:E5xx-15xx  | Bad operating system trap (OST) code passed to kernel operating system trap (KOST).                            |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-16xx  | Mismatch of dual serial channel (DSCH) masks.                                                                  |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-17xx  | Failure return from inhibitdv operating system trap (OST).                                                     |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-18xx  | Failure to write the dual serial channel (DSCH) mask.                                                          |
| 5E10 and later |                                                                                                                |
| PRM:F5xx-19xx  | Failure to initialize the network service complex (NSC) interface.                                             |
| 5E10 and later |                                                                                                                |
| PRM:F5xx-1Axx  | "stopdma" returned a failure.                                                                                  |
| 5E11 and later |                                                                                                                |
| PRM:F5xx-1Bxx  | "clrdschm" returned a failure.                                                                                 |
| 5E11 and later |                                                                                                                |
| PRM:F5xx-1Cxx  | Unable to read the status of a channel.                                                                        |
| 5E11 and later |                                                                                                                |
| PRM:F5xx-1Dxx  | Unable to restore interrupts to a channel.                                                                     |
| 5E11 and later |                                                                                                                |
| PRM:F5xx-1Exx  | Unable to read the direct memory access controller (DMAC) RAM.                                                 |
| 5E11 and later |                                                                                                                |
| PRM:F5xx-1Fxx  | Unable to write the direct memory access controller (DMAC) RAM.                                                |
| 5E11 and later |                                                                                                                |
| PRM:E5xx-20xx  | Postmort sequence number mismatch.                                                                             |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-21xx  | Failure to initialize a serial channel (SCH).                                                                  |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-22xx  | Failure to initialize a dual serial channel (DSCH).                                                            |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-23xx  | Failure to enable the direct access memory (DMA).                                                              |
| 5E10 and later |                                                                                                                |
| PRM:F5xx-23xx  | Failure to enable the direct memory access controller (DMAC).                                                  |
| 5E11 and later |                                                                                                                |
| PRM:E5xx-24xx  | The dtchchan operating system trap (OST) returned an error: unable to detach an attach point for an interrupt. |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-25xx  | The dual serial channel mask (DSCHMASK) operating system trap (OST) failed.                                    |
| 5E10 and later |                                                                                                                |
| PRM:F5xx-25xx  | The dual serial channel mask (DSCHMASK) operating system trap (OST) failed.                                    |
| 5E11 and later |                                                                                                                |
| PRM:E5xx-26xx  | Soft switch failure due to bad cache.                                                                          |
| 5E10 and later |                                                                                                                |
| PRM:F5xx-26xx  | Soft switch failure due to bad cache.                                                                          |
| 5E11 and later |                                                                                                                |
| PRM:E5xx-27xx  | Soft switch failure due to timeout.                                                                            |
| 5E10 and later |                                                                                                                |
| PRM:F5xx-27xx  | Soft switch failure due to timeout.                                                                            |
| 5E11 and later |                                                                                                                |
| PRM:E5xx-28xx  | Soft switch failure - control unit (CU) was not in update mode.                                                |
| 5E10 and later |                                                                                                                |
| PRM:F5xx-28xx  | Soft switch failure - control unit (CU) was not in update mode.                                                |
| 5E11 and later |                                                                                                                |
| PRM:E5xx-29xx  | Error Interrupt has been received, while control unit (CU) in INIT state.                                      |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-30xx  | Unable to return the busy bit for the specified channel.                                                       |
| 5E10 and later |                                                                                                                |
| PRM:5555-5555  | CC Diagnostic Phase.                                                                                           |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-DDxx  | Disk data (previously known as all-seems-well function).                                                       |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-E0xx  | alocmsg failed.                                                                                                |
| 5E10 and later |                                                                                                                |
| PRM:E5xx-E1xx  | Queuing a message failed.                                                                                      |

|                                 |                                                                                                                                                                                                                                                                      |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5E10 and later<br>PRM:F5xx-E2xx | Function call using a zero transfer vector.                                                                                                                                                                                                                          |
| 5E10 and later<br>PRM:F5xx-E3xx | Failure of the microstore pump to the off-line control unit (CU).                                                                                                                                                                                                    |
| 5E10 and later<br>PRM:F5xx-E4xx | A phase will be called due to the equipment configuration database (ECD) audit finding incorrect unit control block (UCB) data for direct memory access (DMA) or channel hardware.                                                                                   |
| 5E10 and later<br>PRM:F5xx-E5xx | A phase will be called to initiate a hard switch.                                                                                                                                                                                                                    |
| 5E10 and later<br>PRM:E5xx-E7xx | De-escalate operating system trap (OST) successfully completed.                                                                                                                                                                                                      |
| 5E10 and later<br>PRM:E5xx-E8xx | Failure to identify the active maintenance teletypewriter (MTTY) or the active receive only printer (ROP) in the ucb records. While administering off-line boot, the error interrupt handler (EIH) encountered an error.                                             |
| 5E10 and later<br>PRM:F5xx-EAxx | An EIH function is executing on the on-line side during the off-line boot.                                                                                                                                                                                           |
| 5E10 and later<br>PRM:E5xx-ECxx | add_rm_log() failed to send a message to the coordinated spooler output process (CSOP) to inform it about class record changes, or failed to insert the off-line boot log (OLBLOG) device record into the class record.                                              |
| 5E10 and later<br>PRM:F5xx-EDxx | An EIH function is executing on the off-line side during the off-line boot.                                                                                                                                                                                          |
| 5E10 and later<br>PRM:E5xx-EExx | Send_tty() failed to send a message to the coordinated spooler output process (CSOP) to inform it about device record changes.                                                                                                                                       |
| 5E10 and later<br>PRM:F5xx-EFxx | Offline boot is being terminated with an RTR level 3 initialization performed on the offline side if the RETROFIT option was not used, or a RTR level 4 initialization if the RETROFIT option was used.                                                              |
| 5E10 and later<br>PRM:E5xx-F0xx | Failed to send a message to the real-time status (RTS) process to inform it about a change of status to UNEQUIP for a maintenance teletypewriter (MTTY), receive-only printer (ROP), switching control center (SCC) or scanner and signal distributor (SCSD) device. |
| 5E10 and later<br>PRM:E5xx-F1xx | Failure to send a PRM message to the system integrity monitor (SIM) due to lack of message buffers.                                                                                                                                                                  |
| 5E11 and later<br>PRM:F5xx-F2xx | Reports the fields in the unit control block (UCB) of an alternate boot disk (ABD) that contain unexpected values.                                                                                                                                                   |

## 1.7 MAJOR STEP 6 - DISK DRIVER

| Message ID/Release              | Function                                                                           |
|---------------------------------|------------------------------------------------------------------------------------|
| PRM:E6xx-100x<br>5E10 and later | Disk driver memory and data initialization.                                        |
| PRM:F6xx-100x<br>5E10 and later | Disk driver memory and data initialization.                                        |
| PRM:E6xx-20xx<br>5E10 and later | Restore sequence of a disk file controller (DFC).                                  |
| PRM:F6xx-20xx<br>5E10 and later | Restore sequence of a disk file controller (DFC).                                  |
| PRM:E6xx-30xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 0 (DFC 0). |
| PRM:F6xx-30xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 0 (DFC 0). |
| PRM:E6xx-31xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 1 (DFC 1). |
| PRM:F6xx-31xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 1 (DFC 1). |
| PRM:E6xx-32xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 2 (DFC 2). |
| PRM:F6xx-32xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 2 (DFC 2). |
| PRM:E6xx-33xx                   | Restore sequence of a moving head disk (MHD) under disk file controller 3 (DFC 3). |

|                                 |                                                                                                |
|---------------------------------|------------------------------------------------------------------------------------------------|
| 5E10 and later                  |                                                                                                |
| PRM:F6xx-33xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 3 (DFC 3).             |
| PRM:E6xx-34xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 4 (DFC 4).             |
| PRM:F6xx-34xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 4 (DFC 4).             |
| PRM:E6xx-35xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 5 (DFC 5).             |
| PRM:F6xx-35xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 5 (DFC 5).             |
| PRM:E6xx-36xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 6 (DFC 6).             |
| PRM:F6xx-36xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 6 (DFC 6).             |
| PRM:E6xx-37xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 7 (DFC 7).             |
| PRM:F6xx-37xx<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 7 (DFC 7).             |
| PRM:E6xx-40xx<br>5E10 and later | Disk driver memory initialization based on equipment configuration database (ECD) information. |
| PRM:F6xx-40xx<br>5E10 and later | Disk driver memory initialization based on equipment configuration database (ECD) information. |
| PRM:E6xx-60x0<br>5E10 and later | Restore sequence of disk file controller (DFC).                                                |
| PRM:F6xx-60x0<br>5E10 and later | Restore sequence of disk file controller (DFC).                                                |
| PRM:E6xx-70x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 0 (DFC 0).             |
| PRM:F6xx-70x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 0 (DFC 0).             |
| PRM:E6xx-71x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 1 (DFC1).              |
| PRM:F6xx-71x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 1 (DFC1).              |
| PRM:E6xx-72x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 2 (DFC2).              |
| PRM:F6xx-72x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 2 (DFC2).              |
| PRM:E6xx-73x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 3 (DFC3).              |
| PRM:F6xx-73x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 3 (DFC3).              |
| PRM:E6xx-74x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 4 (DFC4).              |
| PRM:F6xx-74x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 4 (DFC4).              |
| PRM:E6xx-75x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 5 (DFC5).              |
| PRM:F6xx-75x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 5 (DFC5).              |
| PRM:E6xx-76x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 6 (DFC6).              |
| PRM:F6xx-76x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 6 (DFC6).              |
| PRM:E6xx-77x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 7 (DFC7).              |
| PRM:F6xx-77x0<br>5E10 and later | Restore sequence of a moving head disk (MHD) under disk file controller 7 (DFC7).              |
| PRM:F6xx-80xx<br>5E10 and later | Disk driver fault code processing.                                                             |
| PRM:E6xx-DDxx                   | Disk driver all-seems-well.                                                                    |

|                |                                                                          |
|----------------|--------------------------------------------------------------------------|
| 5E10 and later |                                                                          |
| PRM:F6xx-F0xx  | Disk driver is in the process of phasing the administrative module (AM). |
| 5E10 and later |                                                                          |

## 1.8 MAJOR STEP 7 - INPUT/OUTPUT PROCESSOR DRIVER

| Message ID/Release              | Function                                                                                                                                                                                                                                             |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRM:E7xx-010x<br>5E10 and later | The IOP driver has been faulted.                                                                                                                                                                                                                     |
| PRM:E7xx-020x<br>5E10 and later | An attempt to pump microcode from the disk to a peripheral controller (PC) has failed.                                                                                                                                                               |
| PRM:E7xx-030x<br>5E10 and later | An attempt to grow a segment of the main store at boot time has failed.                                                                                                                                                                              |
| PRM:E7xx-040x<br>5E10 and later | The IOP driver encountered severe problems during the boot sequence.                                                                                                                                                                                 |
| PRM:E7xx-050x<br>5E10 and later | An attempt to restore an IOP to service has failed.                                                                                                                                                                                                  |
| PRM:E7xx-0600<br>5E10 and later | The IOP has been faulted and is performing a complete software reinitialization.                                                                                                                                                                     |
| PRM:E7xx-0800<br>5E10 and later | The IOP cannot grow a unit during boot or a software reinitialization.                                                                                                                                                                               |
| PRM:F7xx-0B0x<br>5E10 and later | This PRM is printed out when the boot restore for the maintenance teletypewriter controller (MTTYC) failed during or after writing the pumpcode into the MTTYC. The IOP driver will try using the alternate pumpcode file name to restore the MTTYC. |
| PRM:F7xx-0C0x<br>5E10 and later | This PRM is printed out when the boot restore for the IOP failed during or after pumping the pumpcode stage.                                                                                                                                         |
| PRM:F7xx-0D0x<br>5E10 and later | This PRM is printed out as a warning when the boot restore for the maintenance TTY controller (MTTYC) failed during or after pumping the pump code state.                                                                                            |
| PRM:E7xx-0F0x<br>5E10 and later | The IOP driver has tried repeatedly to restart a faulty duplexed essential unit whose mate is out-of-service (OOS), but all such attempts have failed.                                                                                               |
| PRM:F7xx-0F0x<br>5E10 and later | The IOP driver has tried repeatedly to restart a faulty duplexed essential unit whose mate is out-of-service (OOS), but all such attempts have failed.                                                                                               |
| PRM:E7xx-200x<br>5E10 and later | This PRM code is printed out when a switchable subdevice cannot connect to any peripheral controller (PC).                                                                                                                                           |
| PRM:F7xx-200x<br>5E10 and later | This PRM code is printed out when a switchable subdevice cannot connect to any peripheral controller (PC).                                                                                                                                           |
| PRM:E7xx-2100<br>5E10 and later | This PRM code is printed out when craft-initialization is requested with the system in full disk independent operation (DIOP).                                                                                                                       |
| PRM:E7xx-500x<br>5E10 and later | The data link cannot establish communication at protocol level 2.                                                                                                                                                                                    |
| PRM:E7xx-510x<br>5E10 and later | Cannot establish communication at protocol level 2 in any one of the data links in a duplex pair.                                                                                                                                                    |
| PRM:E7xx-520x<br>5E10 and later | Insufficient memory to allocate buffers for the number of virtual channels requested for a data link.                                                                                                                                                |
| PRM:E7xx-530x<br>5E10 and later | Data link cannot establish communication at protocol level 3.                                                                                                                                                                                        |
| PRM:E7xx-540x<br>5E10 and later | No segment available for the common segment. Therefore, no data links will be restored.                                                                                                                                                              |
| PRM:E7xx-550x<br>5E10 and later | No cells available in the common segment. The current restore will fail; however, an attempt is made to correct the situation.                                                                                                                       |
| PRM:E7xx-560x<br>5E10 and later | An inconsistency has occurred between the information in the common segment and the information passed by the input/output driver (IODRV) memory facility. The current restoral operation will fail.                                                 |
| PRM:E7xx-570x<br>5E10 and later | The data link cannot establish communication at protocol level 2 due to a conflict in line address.                                                                                                                                                  |
| PRM:E7xx-580x<br>5E10 and later | Failure to get the peripheral controller subdevice (PCSD) option block record from the equipment configuration database (ECD) during a grow PCSD for a data link.                                                                                    |
| PRM:E7xx-590x<br>5E10 and later | Failure to obtain the segment identifier (ID) and page table address for the data link buffer memory.                                                                                                                                                |
| PRM:E7xx-5A0x<br>5E10 and later | Failure to acquire scratch space and buffer memory for a data link.                                                                                                                                                                                  |



|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRM:E7xx-5B0x<br>5E10 and later | Failure to obtain a timer element from the IOP driver timing chain for a data link.                                                                                                                                                                                                                                                                                                                               |
| PRM:E7xx-700x<br>5E10 and later | The input/output driver (IODRV) memory facility is unable to dynamically add a segment. This indicates either there is no available room in the memory control table or the memory control table information is inconsistent with the message acknowledgment received.                                                                                                                                            |
| PRM:E7xx-710x<br>5E10 and later | The input/output driver (IODRV) memory facility is unable to dynamically grow a segment. This indicates either there is no available room in the memory control table, or the memory control table information is inconsistent with the message acknowledgment received.                                                                                                                                          |
| PRM:E7xx-720x<br>5E10 and later | During operations on a segment, either the input/output driver (IODRV) memory facility requested a settle-down timer to allow the system to idle down before attempting a retry or a timer was set to insure the message or its acknowledgment was not lost. Upon firing one of the timers, the memory control table entry for the segment in question is found to be inconsistent. The retry attempt is aborted. |
| PRM:E7xx-730x<br>5E10 and later | Unable to dynamically add a segment due to lack of system resources.                                                                                                                                                                                                                                                                                                                                              |
| PRM:E7xx-740x<br>5E10 and later | Unable to dynamically grow a segment due to lack of system resources.                                                                                                                                                                                                                                                                                                                                             |
| PRM:E7xx-750x<br>5E10 and later | There is no available entry in the backup memory control table of the input/output driver (IODRV) memory facility. However, an entry in the memory control table was found. This is inconsistent since each table has the same number of entries. An entry is needed in each table for each dynamically added segment.                                                                                            |
| PRM:E7xx-80xx<br>5E10 and later | Fail to clear bus interface controller (BIC) during a restore of an IOP.                                                                                                                                                                                                                                                                                                                                          |
| PRM:E7xx-83xx<br>5E10 and later | Fail to enable bus interface circuit - peripheral interface circuit (BIC-PIC) interface during a restore of an IOP.                                                                                                                                                                                                                                                                                               |
| PRM:E7xx-86xx<br>5E10 and later | Failed to send peripheral input/output initialization (PIOINIT) to an IOP.                                                                                                                                                                                                                                                                                                                                        |
| PRM:E7xx-87xx<br>5E10 and later | Fail to enable interrupt during a restore of an IOP.                                                                                                                                                                                                                                                                                                                                                              |
| PRM:E7xx-88xx<br>5E10 and later | Fail to clear duplex dual serial bus selector (DDSBS) during a restore of an IOP.                                                                                                                                                                                                                                                                                                                                 |
| PRM:E7xx-90D5<br>5E10 and later | The IOP driver has made a bad_ost fault.                                                                                                                                                                                                                                                                                                                                                                          |
| PRM:E7xx-91xx<br>5E10 and later | The input/output processor (IOP) has been faulted and is performing a complete software reinitialization.                                                                                                                                                                                                                                                                                                         |
| PRM:E7xx-DDxx<br>5E10 and later | The IOP driver all-seems-well.                                                                                                                                                                                                                                                                                                                                                                                    |
| PRM:F7xx-F000<br>5E10 and later | The IOP driver has called phase.                                                                                                                                                                                                                                                                                                                                                                                  |

## 1.9 MAJOR STEP 8 - FILE MANAGER

| Message ID/Release              | Function                                              |
|---------------------------------|-------------------------------------------------------|
| PRM:E8xx-00xx<br>5E10 and later | The file system mount/unmount completed successfully. |
| PRM:F8xx-01xx<br>5E10 and later | Initialization error.                                 |
| PRM:F8xx-02xx<br>5E10 and later | Initialization error.                                 |
| PRM:F8xx-04xx<br>5E10 and later | Initialization error.                                 |
| PRM:F8xx-06xx<br>5E10 and later | Initialization error.                                 |
| PRM:F8xx-0700<br>5E10 and later | Task switch failure has occurred.                     |
| PRM:F8xx-08xx<br>5E10 and later | Inode management.                                     |
| PRM:F8xx-0900                   | Buffer management.                                    |

|                |                                                                                                                                                         |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-0Cxx  | Directory management.                                                                                                                                   |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-0D00  | Inode management.                                                                                                                                       |
| 5E10 and later |                                                                                                                                                         |
| PRM:E8xx-0Exx  | File system management.                                                                                                                                 |
| 5E10 and later |                                                                                                                                                         |
| PRM:E8xx-0Fxx  | File system management.                                                                                                                                 |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-1000  | Too many nontask faults have occurred.                                                                                                                  |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-1100  | Too many task faults have occurred.                                                                                                                     |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-1200  | Initialization error.                                                                                                                                   |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-1300  | File manager buffer error - an invalid logical device identifier (ID).                                                                                  |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-13xx  | The file system mount has failed during mount initialization.                                                                                           |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-14xx  | The file system mount audit (AUD:FMGR=7) failed due to a fault. The file manager may have failed to mount a file system.                                |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-15xx  | The file system mount audit (AUD:FMGR=7) failed due to structural problems in the file system. The file manager may have failed to mount a file system. |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-16xx  | The file system re-mount has failed.                                                                                                                    |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-17xx  | The file system mount has failed.                                                                                                                       |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-18xx  | The file system unmount has failed.                                                                                                                     |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-19xx  | A file manager task has been torn down.                                                                                                                 |
| 5E10 and later |                                                                                                                                                         |
| PRM:F8xx-1Axx  | A file manager task has been torn down.                                                                                                                 |
| 5E10 and later |                                                                                                                                                         |
| PRM:E8xx-DDxx  | Disk data (previously known as all-seems-well function).                                                                                                |
| 5E10 and later |                                                                                                                                                         |

## 1.10 MAJOR STEP 9 - KERNEL SERVICE ROUTINES

| Message ID/Release | Function                                                                                 |
|--------------------|------------------------------------------------------------------------------------------|
| PRM:F9xx-0100      | Excessive number of illegal interrupts.                                                  |
| 5E10 and later     |                                                                                          |
| PRM:F9xx-0200      | Bad segment descriptor entry (SDE) pointer.                                              |
| 5E10 and later     |                                                                                          |
| PRM:F9xx-0300      | Segment descriptor entry (SDE) pointer does not belong to a process control block (PCB). |
| 5E10 and later     |                                                                                          |
| PRM:F9xx-0400      | Unexpected interrupt.                                                                    |
| 5E10 and later     |                                                                                          |
| PRM:F9xx-05xx      | Unattached interrupt.                                                                    |
| 5E10 and later     |                                                                                          |
| PRM:F9xx-060x      | Invalid kernel process dispatch.                                                         |
| 5E10 and later     |                                                                                          |
| PRM:F9xx-070x      | Bad segment descriptor entry (SDE) pointer.                                              |
| 5E10 and later     |                                                                                          |
| PRM:F9xx-0800      | An unknown or illegal process is trying to return from a software fault.                 |
| 5E10 and later     |                                                                                          |
| PRM:F9xx-0900      | Null dispatcher control table entry (DCTE) pointer.                                      |
| 5E10 and later     |                                                                                          |
| PRM:E9xx-0A00      | Error return from iorint.                                                                |
| 5E10 and later     |                                                                                          |
| PRM:E9xx-0B00      | Abnormal return from iorsr.                                                              |
| 5E10 and later     |                                                                                          |

|                                 |                                                                                                                                                                                                          |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRM:E9xx-0C0x<br>5E10 and later | Abnormal return from wtmsk.                                                                                                                                                                              |
| PRM:E9xx-0D0x<br>5E10 and later | Abnormal return from wtmsk. In the 3B20D administrative module (AM), the PRM is printed when an error or timeout occurs from wtmsk. In the 3B21D AM, the PRM is printed when an error occurs from wtmsk. |
| PRM:E9xx-0E00<br>5E10 and later | Abnormal return from wtmski.                                                                                                                                                                             |
| PRM:E9xx-0F00<br>5E10 and later | Abnormal return from wtmskr.                                                                                                                                                                             |
| PRM:F9xx-1000<br>5E10 and later | An invalid branch occurred.                                                                                                                                                                              |
| PRM:F9xx-11xx<br>5E10 and later | Kernel incurred software fault.                                                                                                                                                                          |
| PRM:F9xx-12xx<br>5E10 and later | Kernel faulted while in a special system process.                                                                                                                                                        |
| PRM:F9xx-13xx<br>5E10 and later | Kernel faulted while handling a supervisor operating system trap (OST).                                                                                                                                  |
| PRM:F9xx-14xx<br>5E10 and later | Kernel faulted while handling a channel operating system trap (OST).                                                                                                                                     |
| PRM:F9xx-15xx<br>5E10 and later | Kernel faulted while handling a kernel process operating system trap (OST).                                                                                                                              |
| PRM:F9xx-16xx<br>5E10 and later | Kernel faulted while in the kernel audit.                                                                                                                                                                |
| PRM:E9xx-1700<br>5E10 and later | Incomplete dsksimplex operating system trap (OST) process.                                                                                                                                               |
| PRM:F9xx-17xx<br>5E10 and later | Kernel faulted while in a special process.                                                                                                                                                               |
| PRM:E9xx-1800<br>5E10 and later | Extended main memory backplane wiring enabled, but system has nonextended memory.                                                                                                                        |
| PRM:E9xx-1900<br>5E10 and later | The requested time out interval exceeded the maximum.                                                                                                                                                    |
| PRM:E9xx-1A0x<br>5E10 and later | Kernel Service Routines.                                                                                                                                                                                 |
| PRM:E9xx-1B0x<br>5E10 and later | Failure from rdmsk.                                                                                                                                                                                      |
| PRM:E9xx-1Exx<br>5E10 and later | All processes attaching to the same interrupt source bit must specify the same execution level.                                                                                                          |
| PRM:E9xx-1F00<br>5E12 and later | A software check for hardware errors in the real time clock has failed.                                                                                                                                  |
| PRM:F9xx-3400<br>5E10 and later | There are no available scheduler slist entries.                                                                                                                                                          |
| PRM:F9xx-3700<br>5E10 and later | I/O error during process load.                                                                                                                                                                           |
| PRM:F9xx-3802<br>5E10 and later | The scheduler encountered an unexplained fault.                                                                                                                                                          |
| PRM:F9xx-3902<br>5E10 and later | The scheduler encountered a software fault within the last 10 sched ticks.                                                                                                                               |
| PRM:F9xx-3A02<br>5E10 and later | The scheduler encountered the second software fault within the last 10 sched ticks.                                                                                                                      |
| PRM:F9xx-4002<br>5E10 and later | Kdapdrv encountered a software fault.                                                                                                                                                                    |
| PRM:F9xx-5002<br>5E10 and later | Utility manager (UMGR) encountered a software fault.                                                                                                                                                     |
| PRM:F9xx-6E00<br>5E10 and later | Bad return code received from function call.                                                                                                                                                             |
| PRM:F9xx-6F00<br>5E10 and later | Bad return code received from function call.                                                                                                                                                             |
| PRM:F9xx-7000<br>5E10 and later | Memory manager (MMGR) synchronization fault.                                                                                                                                                             |
| PRM:F9xx-7100<br>5E10 and later | Memory manager (MMGR) swapping logic error.                                                                                                                                                              |
|                                 |                                                                                                                                                                                                          |

|                                 |                                                                                          |
|---------------------------------|------------------------------------------------------------------------------------------|
| PRM:F9xx-7200<br>5E10 and later | Memory manager (MMGR) internal table built in wrong sequence.                            |
| PRM:F9xx-7300<br>5E10 and later | Swap memory below minswap after boot.                                                    |
| PRM:F9xx-7400<br>5E10 and later | Memory manager ran out of hold descriptor blocks during rebuild.                         |
| PRM:E9xx-7502<br>5E10 and later | Memory manager received software fault.                                                  |
| PRM:F9xx-7502<br>5E10 and later | Memory manager was entered with a fault.                                                 |
| PRM:E9xx-7600<br>5E10 and later | Beginning internal audit of the memory manager's segment I/O activity.                   |
| PRM:E9xx-7700<br>5E10 and later | A segment I/O request is stuck, the memory manager is taking drastic action to clean up. |
| PRM:E9xx-78xx<br>5E10 and later | Memory manager detected an out-of-range page index within the free page list.            |
| PRM:F9xx-7Fxx<br>5E10 and later | Inconsistent data in swap device extent control information.                             |
| PRM:F9xx-8002<br>5E10 and later | Capability manager (CMGR) encountered a software fault.                                  |
| PRM:E9xx-DDxx<br>5E10 and later | Disk data (previously known as all-seems-well function).                                 |

## 1.11 MAJOR STEP A - PROCESS MANAGER

| Message ID/Release              | Function                                                             |
|---------------------------------|----------------------------------------------------------------------|
| PRM:FAxx-0100<br>5E10 and later | Second initialization request.                                       |
| PRM:FAxx-0200<br>5E10 and later | Failed to open kernel stack segment.                                 |
| PRM:FAxx-0300<br>5E10 and later | Failed to open kernel message buffer segment.                        |
| PRM:FAxx-0800<br>5E10 and later | Fail to open root file system.                                       |
| PRM:FAxx-0900<br>5E10 and later | Failed to add nub.                                                   |
| PRM:FAxx-0C00<br>5E10 and later | Failed to open protected application segment.                        |
| PRM:FAxx-0D00<br>5E10 and later | Failed to open equipment configuration database (ECD) text segment.  |
| PRM:FAxx-0E00<br>5E10 and later | Failed to open equipment configuration database (ECD) segment.       |
| PRM:FAxx-0F00<br>5E10 and later | Failed to open equipment configuration database (ECD) patch segment. |
| PRM:FAxx-1100<br>5E10 and later | Failed to open plant measurement library (PML) text segment.         |
| PRM:FAxx-1200<br>5E10 and later | Failed to open plant measurement library (PML) data segment.         |
| PRM:FAxx-1300<br>5E10 and later | Failed to open plant measurement library (PML) patch segment.        |
| PRM:FAxx-1500<br>5E10 and later | Process manager fault count threshold exceeded.                      |
| PRM:EAXx-6400<br>5E10 and later | Successful initialization.                                           |
| PRM:EAXx-6500<br>5E10 and later | Boot time pcreated process not created.                              |
| PRM:AAAA-AAAA<br>5E10 and later | CC Diagnostic phase.                                                 |
| PRM:EAXx-DDxx<br>5E10 and later | Disk data (previously known as all-seems-well function).             |

## 1.12 MAJOR STEP B - SYSTEM INTEGRITY MONITOR

| Message ID/Release              | Function                                                                                                                                                                                                                                |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRM:FBxx-0000<br>5E10 and later | System initialization failure. System integrity monitor (SIM) did not receive a successful initialization status report from one or more of the essential boot processes.                                                               |
| PRM:EBxx-0700<br>5E10 and later | Audit control subsystem initialization failure.                                                                                                                                                                                         |
| PRM:EBxx-0800<br>5E10 and later | System integrity monitor (SIM) was unable to attach to the plant measurements database.                                                                                                                                                 |
| PRM:FBxx-0Bxx<br>5E10 and later | System integrity monitor (SIM) requested a phase 1 because it was looping in its fault entry.                                                                                                                                           |
| PRM:FBxx-0Cxx<br>5E10 and later | System integrity monitor (SIM) requested a phase 1 after having been faulted five times.                                                                                                                                                |
| PRM:EBxx-1000<br>5E10 and later | Failure to initialize the system integrity monitor (SIM) overload control system.                                                                                                                                                       |
| PRM:EBxx-1100<br>5E10 and later | System integrity monitor (SIM) terminated all <i>UNIX</i> <sup>®</sup> RTR Operating System programs in an effort to recover from an overload condition.                                                                                |
| PRM:EBxx-1200<br>5E10 and later | System integrity monitor (SIM) terminated all craft interface processes in an effort to recover from an overload condition.                                                                                                             |
| PRM:EBxx-1300<br>5E10 and later | System integrity monitor (SIM) terminated all <i>UNIX</i> <sup>®</sup> RTR Operating System programs with long message queues in an effort to recover from an overload condition.                                                       |
| PRM:EBxx-1400<br>5E10 and later | System integrity monitor (SIM) terminated craft spooler process (CSOP), the real-time status process (RTS), and all craft terminal processes in an effort to recover from an overload condition.                                        |
| PRM:EBxx-1500<br>5E10 and later | System integrity monitor (SIM) terminated the real-time status process (RTS) and all craft terminal processes in an effort to recover from an overload condition.                                                                       |
| PRM:EBxx-1600<br>5E10 and later | System integrity monitor (SIM) terminated all craft terminal processes in an effort to recover from an overload condition.                                                                                                              |
| PRM:FBxx-2000<br>5E10 and later | System integrity monitor (SIM) is requesting a phase 1 in an effort to recover from message buffer overflow.                                                                                                                            |
| PRM:FBxx-2100<br>5E10 and later | System integrity monitor (SIM) is requesting a phase 1 in an effort to recover from critical message buffer overload.                                                                                                                   |
| PRM:FBxx-4000<br>5E10 and later | The system integrity monitor (SIM) requested a phase 0 as a recovery action for an audit failure.                                                                                                                                       |
| PRM:FBxx-4100<br>5E10 and later | The system integrity monitor (SIM) requested a phase 1 as a recovery action for an audit failure.                                                                                                                                       |
| PRM:FBxx-4200<br>5E10 and later | The system integrity monitor (SIM) requested a phase 2 as a recovery action for an audit failure.                                                                                                                                       |
| PRM:FBxx-4300<br>5E10 and later | The system integrity monitor (SIM) requested a phase 3 as a recovery action for an audit failure.                                                                                                                                       |
| PRM:EBxx-5000<br>5E10 and later | System integrity monitor (SIM) has received a sanity message or event from the application integrity monitor (AIM).                                                                                                                     |
| PRM:FBxx-5100<br>5E10 and later | System integrity monitor (SIM) failed to receive a sanity message or event from the application integrity monitor (AIM) within the number of seconds specified in the SIM control record in the equipment configuration database (ECD). |
| PRM:FBxx-5200<br>5E10 and later | System integrity monitor (SIM) failed to receive a sanity event from the application integrity monitor (AIM) to reset the application sanity timer.                                                                                     |
| PRM:EBxx-60xx<br>5E10 and later | Boot progress PRMs from the <i>UNIX</i> <sup>®</sup> RTR Operating System level automatic restart process (ULARP).                                                                                                                      |
| PRM:EBxx-6100<br>5E10 and later | System integrity monitor (SIM) failure to pcreate the <i>UNIX</i> <sup>®</sup> RTR Operating System initialization process.                                                                                                             |
| PRM:EBxx-62xx<br>5E10 and later | <i>UNIX</i> <sup>®</sup> RTR Operating System initialization process (/prc/unix) failure message.                                                                                                                                       |
| PRM:EBxx-6300<br>5E10 and later | Failure to execute the <i>UNIX</i> <sup>®</sup> RTR Operating System level automatic restart process (ULARP).                                                                                                                           |
| PRM:EBxx-6400<br>5E10 and later | <i>UNIX</i> <sup>®</sup> RTR Operating System level automatic restart process (ULARP) failure to attach to the equipment configuration database (ECD).                                                                                  |
| PRM:EBxx-65xx                   | A run command failed to be executed by the <i>UNIX</i> <sup>®</sup> RTR Operating System shell.                                                                                                                                         |

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| 5E10 and later                  |                                                                                                                                                                  |
| PRM:EBxx-66xx<br>5E10 and later | Failure of the <i>UNIX</i> <sup>®</sup> RTR Operating System level automatic restart process (ULARP) to execute this child process.                              |
| PRM:EBxx-67xx<br>5E10 and later | A process monitored by the <i>UNIX</i> <sup>®</sup> RTR Operating System level automatic restart process (ULARP) terminated due to a fatal error.                |
| PRM:EBxx-68xx<br>5E10 and later | Invalid equipment configuration database (ECD) record for a <i>UNIX</i> <sup>®</sup> RTR Operating System level automatic restart process (ULARP) child process. |
| PRM:EBxx-6900<br>5E10 and later | All processes monitored by the <i>UNIX</i> <sup>®</sup> RTR Operating System level automatic restart process (ULARP) failed to execute.                          |
| PRM:EBxx-7200<br>5E10 and later | A craft suspend has occurred because of a kernel-level lockout condition.                                                                                        |
| PRM:EBxx-7300<br>5E10 and later | A craft initialization procedure cannot be performed when the system is in disk independent operation (DIOP).                                                    |
| PRM:EBxx-7400<br>5E10 and later | A user initialization procedure timed out.                                                                                                                       |
| PRM:FBxx-7400<br>5E10 and later | A user initialization procedure timed out.                                                                                                                       |
| PRM:EBxx-7500<br>5E10 and later | An operator initialization cannot be performed because either an operator initialization or a field update is already in progress.                               |
| PRM:EBxx-DDxx<br>5E10 and later | Disk data (previously known as all-seems-well function).                                                                                                         |

### 1.13 MAJOR STEP C - SYSTEM INTEGRITY MONITOR

| Message ID/Release              | Function                                                                                                                                                                                                                                                     |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRM:ECxx-0F00<br>5E10 and later | This PRM indicates that the off-line processor maintenance reset function (MRF) occurred. When it is received by the Master Control Center (MCC) peripheral controller (PC) firmware, the firmware extinguishes the flashing recovery indication on the MCC. |
| PRM:ECxx-0FDD<br>5E10 and later | This PRM is used during OFLBOOT to extinguish the control unit (CU) recovery indicator on the emergency action interface (EAI) page.                                                                                                                         |
| PRM:CCxx-CCCC<br>5E10 and later | Common channel signaling (CCS) call processing is now available.                                                                                                                                                                                             |
| PRM:ECxx-DDxx<br>5E10 and later | Disk data (previously known as all-seems-well function).                                                                                                                                                                                                     |

### 1.14 MAJOR STEP E - APPLICATION SOFTWARE

| Message ID/Release              | Function                                                                                                                 |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| PRM:EExx-00CC<br>5E10 and later | <i>UNIX</i> <sup>®</sup> RTR Operating System input/output driver kernel process (IODRV) going into recovery.            |
| PRM:EExx-01xx<br>5E10 and later | 5ESS <sup>®</sup> switch ( <i>UNIX</i> <sup>®</sup> RTR Operating System application process) initialization progress.   |
| PRM:EExx-0211<br>5E10 and later | Beginning of a new communication module (CM) hardware initialization in SMKP.                                            |
| PRM:EExx-0213<br>5E10 and later | Switching foundation peripheral controllers (FPCs) and retrying office network and timing complex (ONTC) initialization. |
| PRM:EExx-0214<br>5E10 and later | ICON is retrying the communication module (CM) hardware initialization step using a different hardware configuration.    |
| PRM:EExx-0215<br>5E10 and later | Beginning the communication link initialization step in SMKP.                                                            |
| PRM:EExx-0216<br>5E10 and later | Retrying the communication link initialization step in SMKP with a new link configuration.                               |
| PRM:EExx-0217<br>5E10 and later | Report of the beginning of the "enable fault recovery" step of SMKP initialization.                                      |
| PRM:EExx-0218<br>5E10 and later | Report of the beginning of special administrative module (AM) minimum mode recovery actions.                             |
| PRM:EExx-0222<br>5E10 and later | Successfully completing the communication module (CM) hardware initialization step in SMKP.                              |

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| PRM:EEEx-0225<br>5E10 and later | Successfully completing communication link initialization step in SMKP.                                                                                                                                                                                                                                         |
| PRM:EEEx-0227<br>5E10 and later | Successful completion of the "enable fault recovery" step of SMKP initialization.                                                                                                                                                                                                                               |
| PRM:EEEx-0240<br>5E10 and later | Successful initialization of the active (ACT) or active-forced (ACT-FRC) foundation peripheral controller (FPC) or either office network and timing complex (ONTC) or the communication module processor (CMP).                                                                                                 |
| PRM:EEEx-0280<br>5E10 and later | Order to elevate a communication module processor (CMP) or a foundation peripheral controller (FPC) or a pump peripheral controller (PPC) to the active (ACT) state.                                                                                                                                            |
| PRM:EEEx-0290<br>5E10 and later | Report of a mixed vintage (CM1/CM2) office configuration, with appropriate hardware forces applied.                                                                                                                                                                                                             |
| PRM:EEEx-02E5<br>5E10 and later | Report of a successful "S5" SM data base initialization.                                                                                                                                                                                                                                                        |
| PRM:EEEx-02E6<br>5E10 and later | Report of a successful SM database initialization (S6~software level).                                                                                                                                                                                                                                          |
| PRM:EEEx-02E7<br>5E10 and later | Report of a successful SM database initialization (S7 software level).                                                                                                                                                                                                                                          |
| PRM:EEEx-0300<br>5E10 and later | APPLHOOK Creation. (APPLHOOK is "A <i>UNIX</i> <sup>®</sup> RTR Application Process Used For Retrofit Process Control".)                                                                                                                                                                                        |
| PRM:EEEx-0400<br>5E10 and later | APPLHOOK ran successfully and then terminated. (APPLHOOK is "A <i>UNIX</i> <sup>®</sup> RTR Application Process Used For Retrofit Process Control".)                                                                                                                                                            |
| PRM:EEEx-0600<br>5E10 and later | The administrative module (AM) in core memory office dependent data (ODD) has been successfully reloaded into the protected application segment (PAS) in administrative module (AM) main memory.                                                                                                                |
| PRM:EEEx-0700<br>5E10 and later | The AM has successfully completed recent change roll forward (RCRF) of the 5ESS <sup>®</sup> switch application office dependent data (ODD).                                                                                                                                                                    |
| PRM:EEEx-0800<br>5E10 and later | The administrative module (AM) disk office dependent data (ODD) has been successfully copied between disk partitions.                                                                                                                                                                                           |
| PRM:EEEx-12xx<br>5E10 and later | Synchronization progress between the AIM and the system integrity user level automatic restart program (SIULARP).                                                                                                                                                                                               |
| PRM:EEEx-13xx<br>5E10 and later | AIM received a kernel fault from the <i>UNIX</i> <sup>®</sup> RTR Operating System.                                                                                                                                                                                                                             |
| PRM:EEEx-40xx<br>5E10 and later | 5ESS <sup>®</sup> switch application AIM administrative module (AM) high-level initialization in progress.                                                                                                                                                                                                      |
| PRM:EEEx-50xx<br>5E10 and later | System inhibit status.                                                                                                                                                                                                                                                                                          |
| PRM:EEEx-5400<br>5E10 and later | Data delivery (DD) protected application segment (PAS) zero.                                                                                                                                                                                                                                                    |
| PRM:EEEx-55xx<br>5E10 and later | Inform operators of Master Control Center (MCC) throttle state. The MMC throttle controls the rate at which messages are passed to HMmcc, which control the display administration process (DAP) menu pages. This is an optional PRM that can be turned on via a 42!J!50 emergency action interface (EAI) poke. |
| PRM:EEEx-56xx<br>5E10 and later | Inform operators of teletypewriter (TTY) output message throttle state. This is an optional PRM that can be turned on via a 42!J!50 emergency action interface (EAI) poke.                                                                                                                                      |
| PRM:EEEx-5700<br>5E10 and later | Disk independent operation (DIOP) entry.                                                                                                                                                                                                                                                                        |
| PRM:EEEx-5780<br>5E10 and later | Disk independent operation (DIOP) entry.                                                                                                                                                                                                                                                                        |
| PRM:EEEx-5800<br>5E10 and later | Inconsistent disk independent operation (DIOP) mode operation (that is, the DIOP mode is incorrectly in effect).                                                                                                                                                                                                |
| PRM:EEEx-5Exx<br>5E10 and later | Information on software release being booted. Inform operators of software release now being booted.                                                                                                                                                                                                            |
| PRM:EEEx-5F06<br>5E10 and later | AIM initialization timeout (associated with the specified <i>UNIX</i> <sup>®</sup> RTR Operating System application process) occurred, but initialization has completed anyway.                                                                                                                                 |
| PRM:EEEx-60xx<br>5E10 and later | 5ESS <sup>®</sup> switch ( <i>UNIX</i> <sup>®</sup> RTR Operating System application process) initialization progress.                                                                                                                                                                                          |
| PRM:EEEx-61xx                   | AM software initialization progress marks from within the 5ESS <sup>®</sup> switch kernel                                                                                                                                                                                                                       |

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| 5E10 and later                  | process that operate under the Operating System for Distributed Systems (OSDS), that is, switch maintenance kernel process (SMKP) and operational kernel process (OKP). This is an optional PRM that can be turned on via a 42!J!50 emergency action interface (EAI) poke. |
| PRM:EEEx-68xx<br>5E10 and later | AIM detected a kernel level lockout. This PRM indicates the process ID and execution level of the locked-out kernel process.                                                                                                                                               |
| PRM:EEEx-69xx<br>5E10 and later | Inform operators of a hold-tight condition.                                                                                                                                                                                                                                |
| PRM:EEEx-700x<br>5E10 and later | Reporting success or failure when mounting /cmp file system for the common network interface (CNI) system during a CNI level 3 full process initialization (FPI) or level 4 full initialization (FI).                                                                      |
| PRM:EEEx-710x<br>5E10 and later | Common Network Interface Initialization Kernel Process (CNIINIT) child process initialization progress during CNI Level 3 Full Process Initialization (lvl3) or Level 4 Full Initialization (lvl4).                                                                        |
| PRM:EEEx-711x<br>5E10 and later | Last link of a given signaling type (direct, trunk or TCAP) has transitioned out-of-service or first link of a given type (direct, trunk or TCAP) has transitioned into service.                                                                                           |
| PRM:EEEx-720x<br>5E10 and later | To report detection and correction of a discrepancy in the CCS signaling status indicators during an initialization.                                                                                                                                                       |
| PRM:FExx-720x<br>5E10 and later | To report detection and correction of a discrepancy in the CCS signaling status indicators during an initialization.                                                                                                                                                       |
| PRM:EEEx-72xx<br>5E10 and later | Report RINGMON audit error of common channel signaling (CCS) data delivery (DD) bits (DDCNIOOS, DDCNITSOOS, DDCCS7OOS) against the actual CNI ring status (CCring_st, CCringts_st, CCringtrc_st).                                                                          |
| PRM:EEEx-7300<br>5E10 and later | Report RINGMON duplex direct link node (DLN) failure during initialization (that is, failure to get an active DLN).                                                                                                                                                        |
| PRM:EEEx-730x<br>5E10 and later | To report that RINGMON has made some progress during a common network interface (CNI) initialization or direct link node (DLN) recovery action.                                                                                                                            |
| PRM:FExx-730x<br>5E10 and later | To report that RINGMON has made some progress during a common network interface (CNI) initialization or direct link node (DLN) recovery action.                                                                                                                            |
| PRM:EEEx-740x<br>5E10 and later | To report any automatic recovery action initiated by RINGMON.                                                                                                                                                                                                              |
| PRM:FExx-740x<br>5E10 and later | To report any automatic recovery action initiated by RINGMON.                                                                                                                                                                                                              |
| PRM:EEEx-75xx<br>5E10 and later | To report a software fault received by RINGMON.                                                                                                                                                                                                                            |
| PRM:FExx-75xx<br>5E10 and later | To report a software fault received by RINGMON.                                                                                                                                                                                                                            |
| PRM:EEEx-76xx<br>5E10 and later | To report a problem with RINGMON during a common network interface (CNI) initialization or direct link node (DLN) recovery action.                                                                                                                                         |
| PRM:FExx-7F01<br>5E10 and later | Critical failure occurred in Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) at beginning of initialization.                                                                                                                                        |
| PRM:FExx-7F02<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) can not create a critical child process.                                                                                                                                                            |
| PRM:EEEx-7F04<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) detected problem after receiving "BEGIN BOOT" message.                                                                                                                                              |
| PRM:FExx-7F06<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) can not send imsdv.p "BEGIN, NON-CRITICAL" message.                                                                                                                                                 |
| PRM:FExx-7F07<br>5E10 and later | Failure occurred while Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) was starting child processes.                                                                                                                                                |
| PRM:FExx-7F08<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) received "START ACK" from child process in wrong state.                                                                                                                                             |
| PRM:EEEx-7F09<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) detected an error during critical initialization with "MSACK" message from process manager.                                                                                                         |
| PRM:FExx-7F0A<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) can not create a non-critical child process.                                                                                                                                                        |
| PRM:EEEx-7F0B<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) detected an error during non-critical initialization with "MSACK" message from process manager.                                                                                                     |
| PRM:EEEx-7F0F<br>5E10 and later | Level 0 initialization request received by Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) while currently in initialization.                                                                                                                       |



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| PRM:FExx-7F10<br>5E10 and later | Failure occurred in sending "START_PROC" to critical Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) child processes.                             |
| PRM:FExx-7F11<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timer "GARDTIM" fired while waiting on interprocessor message switch (IMS) message.               |
| PRM:FExx-7F12<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) received "START ACK" from child process in wrong state.                                           |
| PRM:EExx-7F14<br>5E10 and later | Minimum mode (MINMODE) not valid for CNI level 3 initialization.                                                                                                         |
| PRM:EExx-7F18<br>5E10 and later | Process died during Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) level 1 initialization.                                                       |
| PRM:FExx-7F1B<br>5E10 and later | Process found not running during Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) level 1 initialization.                                          |
| PRM:FExx-7F1C<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) can not create a child process during level 1 initialization.                                     |
| PRM:EExx-7F1D<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) detected an error during level 1 initialization with "MSACK" message from process manager.        |
| PRM:EExx-7F1E<br>5E10 and later | Process terminated during Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) initialization.                                                         |
| PRM:FExx-7F20<br>5E10 and later | Process table error found during Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) level 1 initialization.                                          |
| PRM:FExx-7F21<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to finish critical boot.                 |
| PRM:FExx-7F23<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) can not ABORT the common network interface (CNI).                                                 |
| PRM:FExx-7F24<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to finish level 1B initialization.       |
| PRM:FExx-7F25<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on child process response.                                                      |
| PRM:FExx-7F26<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on message to start level 1 initialization.                                     |
| PRM:FExx-7F27<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on child process creation ack.                                                  |
| PRM:EExx-7F28<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) can not run level 0 initialization audit.                                                         |
| PRM:EExx-7F29<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) level 0 initialization audit failure.                                                             |
| PRM:EExx-7F2A<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) can not send "LEVEL 0" message to interprocessor message switch (IMS).                            |
| PRM:EExx-7F2C<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on an audit to complete.                                                        |
| PRM:EExx-7F2D<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to send "COMPLETE LEVEL 0 INIT" message. |
| PRM:EExx-7F2E<br>5E10 and later | Process terminated during Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) level 0 initialization.                                                 |
| PRM:EExx-7F2F<br>5E10 and later | Process terminated during Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) level 0 initialization.                                                 |
| PRM:FExx-7F33<br>5E10 and later | Error detected while checking for dead Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) child processes.                                           |
| PRM:FExx-7F36<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) received "START ACK" from child process in wrong state.                                           |
| PRM:EExx-7F38<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to finish non-critical initialization.   |
| PRM:EExx-7F39<br>5E10 and later | Child process terminated while Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) was recreating another process.                                    |
| PRM:FExx-7F3A<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) detected an error while recreating a child process.                                               |
| PRM:EExx-7F3B<br>5E10 and later | Error detected while Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) was processing a time out.                                                   |
| PRM:EExx-7F3C<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) has received an unexpected process creation message.                                              |

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| PRM:EEEx-7F3E<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) has received an unexpected process creation message.                                    |
| PRM:EEEx-7F3F<br>5E10 and later | Internal change made to user request for level 2 initialization.                                                                                               |
| PRM:FExx-7F43<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on recreation of imsdv.p during level 1 initialization.               |
| PRM:FExx-7F47<br>5E10 and later | sendstart() returned FAIL while Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) was recreating a process.                               |
| PRM:EEEx-7F48<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) received creation acknowledgment from wrong child process.                              |
| PRM:EEEx-7F49<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) received an unexpected event while recreating processes.                                |
| PRM:FExx-7F4A<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) can not send START PROC message to child process.                                       |
| PRM:FExx-7F4B<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) child process terminated.                                                               |
| PRM:EEEx-7F4D<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) child process terminated.                                                               |
| PRM:FExx-7F4E<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to respond to "ABORT" message. |
| PRM:EEEx-7F50<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) cannot send signaling link monitor kernel (SLMK) "LEVEL 1A COMPLETE" message.                                      |
| PRM:FExx-7F51<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) received message that imsdv.p died in minimum mode (MINMODE).                                                      |
| PRM:FExx-7F54<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) received FLT_SIINIT (administrative module [AM] level 51) while executing critical code.                           |
| PRM:EEEx-7F55<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) child process terminated during level 1B initialization.                                                           |
| PRM:FExx-7F58<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) received FLT_SIINIT (administrative module [AM] level 51).                              |
| PRM:FExx-7F59<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to respond to level 1B request.                           |
| PRM:FExx-7F5A<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) cannot send imsdv.p "BEGIN, NON-CRITICAL" message.                                                                 |
| PRM:FExx-7F5B<br>5E10 and later | bootchild() returned FAIL when creating imsdv.p in minimum mode (MINMODE).                                                                                     |
| PRM:FExx-7F5D<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) cannot create interprocessor message switch (IMS) for minimum mode (MINMODE).                                      |
| PRM:FExx-7F5E<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) cannot send "REQ LEVEL 4" message to interprocessor message switch (IMS) in minimum mode (MINMODE).                |
| PRM:FExx-7F5F<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) cannot create interprocessor message switch (IMS) for minimum mode (MINMODE).                                      |
| PRM:FExx-7F60<br>5E10 and later | Error encountered after completing CNI minimum mode (MINMODE) initialization.                                                                                  |
| PRM:EEEx-7F61<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) child process terminated while in minimum mode (MINMODE).                                                          |
| PRM:FExx-7F62<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to complete minimum mode (MINMODE) initialization.        |
| PRM:FExx-7F63<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) cannot ABORT due to system errors.                                                                                 |
| PRM:FExx-7F64<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) can not send imsdv.p "BEGIN, NON-CRITICAL" message during minimum mode (MINMODE) initialization.                   |
| PRM:FExx-7F65<br>5E10 and later | s_imsmsg() returned FAIL when attempting to start non-critical Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) initialization.          |
| PRM:FExx-7F66<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) cannot send "COMPLETE" message to Application Integrity Monitor (AIM).                                             |
| PRM:FExx-7F67<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) cannot abort child process.                                                                                        |
| PRM:FExx-7F68<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) can not send "START PROC" message to child process.                                     |
| PRM:EEEx-7F82                   | CNI Initialization Kernel Process (CNIINIT) child process terminated while in                                                                                  |

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| 5E10 and later                  | initialization.                                                                                                                                                      |
| PRM:EEEx-7F83<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) received operating system trap (OST) from wrong child during initialization.                                             |
| PRM:EEEx-7F84<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) received operating system trap (OST) from wrong child during initialization.                                             |
| PRM:EEEx-7F85<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) received operating system trap (OST) from wrong child during initialization.                                             |
| PRM:EEEx-7F87<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to finish "NON-CRITICAL" minimum mode (MINMODE) initialization. |
| PRM:FEEx-7F88<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) timed out waiting on the interprocessor message switch (IMS) to finish its boot.                                         |
| PRM:FEEx-7F89<br>5E10 and later | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) timed out waiting on child process response.                                                  |
| PRM:EEEx-7F8A<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to finish "NON-CRITICAL" initialization.                        |
| PRM:FEEx-7F8B<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) timed out waiting on child process response.                                                                             |
| PRM:FEEx-7F96<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) state table error.                                                                                                       |
| PRM:EEEx-7F97<br>5E10 and later | Error encountered using bootchild() to create CNI Initialization Kernel Process (CNIINIT) child process.                                                             |
| PRM:EEEx-7F98<br>5E10 and later | Error encountered when sending START_PROC to CNI Initialization Kernel Process (CNIINIT) child process.                                                              |
| PRM:EEEx-7F99<br>5E10 and later | Error encountered using sendstop() to stop CNI Initialization Kernel Process (CNIINIT) child process.                                                                |
| PRM:EEEx-7F9A<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) could not send "PT_USER" message to the Application Integrity Monitor (AIM).                                             |
| PRM:EEEx-7F9B<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) could not send "PT_USER" message to the interprocessor message switch (IMS).                                             |
| PRM:EEEx-7F9C<br>5E10 and later | Parameter passed to CNI Initialization Kernel Process (CNIINIT) u_cvtolg() was out of range.                                                                         |
| PRM:EEEx-7F9D<br>5E10 and later | Parameter passed to CNI Initialization Kernel Process (CNIINIT) "i_cvtolg()" was out of range.                                                                       |
| PRM:EEEx-7F9E<br>5E10 and later | Event error detected by CNI Initialization Kernel Process (CNIINIT) kevent().                                                                                        |
| PRM:FEEx-7F9F<br>5E10 and later | Fault received by CNI Initialization Kernel Process (CNIINIT) kfault().                                                                                              |
| PRM:FEEx-7FA0<br>5E10 and later | Error encountered using acknow() to return creation messages to CNI Initialization Kernel Process (CNIINIT).                                                         |
| PRM:EEEx-7FA1<br>5E10 and later | Parameter passed to CNI Initialization Kernel Process (CNIINIT) measb() was out of range.                                                                            |
| PRM:EEEx-7FA2<br>5E10 and later | Error encountered using settimr() to allocate and guard external events for CNI Initialization Kernel Process (CNIINIT).                                             |
| PRM:FEEx-7FA3<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) cannot ABORT the CNI.                                                                                                    |
| PRM:EEEx-7FA4<br>5E10 and later | Error encountered using update1() to update child process for Common Network Interface (CNI) Initialization Kernel Process (CNIINIT).                                |
| PRM:EEEx-7FA7<br>5E10 and later | Error encountered using update3() for CNI Initialization Kernel Process (CNIINIT).                                                                                   |
| PRM:EEEx-7FA8<br>5E10 and later | CNI Initialization Kernel Process (CNIINIT) received operating system trap (OST) from wrong child process.                                                           |
| PRM:EEEx-7FAA<br>5E10 and later | Error encountered using proctaud() for Common Network Interface (CNI) Initialization Kernel Process (CNIINIT).                                                       |
| PRM:EEEx-7FAB<br>5E10 and later | Parameter passed to CNI Initialization Kernel Process (CNIINIT) pr_rd_ck() was out of range.                                                                         |
| PRM:EEEx-7FAD<br>5E10 and later | Parameter passed to CNI Initialization Kernel Process (CNIINIT) scanp_tab() was out of range.                                                                        |
| PRM:EEEx-7FAE<br>5E10 and later | Error encountered using killproc() to kill a CNI Initialization Kernel Process (CNIINIT) child process.                                                              |
| PRM:EEEx-7FAF                   | Checking Common Network Interface (CNI) Initialization Kernel Process (CNIINIT)                                                                                      |

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| 5E10 and later  | clear state.                                                                                                                                                                                           |
| PRM:FExx-7FB0   | Error encountered using com_init() to reclaim resources for CNI Initialization Kernel Process (CNIINIT).                                                                                               |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-7FDD-A | CNI Initialization Kernel Process (CNIINIT) child process terminated.                                                                                                                                  |
| 5E10 - 5E11     |                                                                                                                                                                                                        |
| PRM:EEEx-7FDD-B | CNI Initialization Kernel Process (CNIINIT) child process terminated.                                                                                                                                  |
| 5E12 and later  |                                                                                                                                                                                                        |
| PRM:FExx-7FDD   | CNI Initialization Kernel Process (CNIINIT) child process terminated.                                                                                                                                  |
| 5E12 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-7FFF   | CNI initialization kernel process (CNIINIT) detected an error condition during an administrative module (AM) offline boot (OFLBOOT).                                                                   |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F01   | CNI Initialization Kernel Process (CNIINIT) timed out waiting on <i>UNIX</i> <sup>®</sup> RTR Operating System to respond to <i>UNIX</i> <sup>®</sup> RTR Operating System feature "SUREKILL" message. |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F02   | <i>UNIX</i> <sup>®</sup> RTR Operating System feature "SUREKILL" response to CNI Initialization Kernel Process (CNIINIT) contained an error.                                                           |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F04   | Error encountered while CNI Initialization Kernel Process (CNIINIT) was "stopping" child processes.                                                                                                    |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F05   | CNI Initialization Kernel Process (CNIINIT) received operating system trap (OST) from wrong child process.                                                                                             |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F06   | CNI Initialization Kernel Process (CNIINIT) timed out waiting on child process response to "START PROC" message.                                                                                       |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F07   | CNI Initialization Kernel Process (CNIINIT) could not communicate with application integrity monitor (AIM) process.                                                                                    |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F08   | CNI Initialization Kernel Process (CNIINIT) detected an error in message from application integrity monitor (AIM).                                                                                     |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:FExx-8F09   | CNI Initialization Kernel Process (CNIINIT) encountered an error during full process initialization (FPI).                                                                                             |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F0A   | CNI Initialization Kernel Process (CNIINIT) detected an error in acknowledgment message from process manager.                                                                                          |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F0B   | CNI Initialization Kernel Process (CNIINIT) received operating system trap (OST) from wrong child process.                                                                                             |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F0D   | CNI Initialization Kernel Process (CNIINIT) timed out waiting on process manager during full process initialization (FPI).                                                                             |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:FExx-8F0F   | CNI Initialization Kernel Process (CNIINIT) timed out waiting on imsdrv.p during full process initialization (FPI).                                                                                    |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:FExx-8F10   | sendchild() returned FAIL when attempting to send message to CNI Initialization Kernel Process (CNIINIT) child process.                                                                                |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F12   | CNI Initialization Kernel Process (CNIINIT) received operating system trap (OST) from wrong child process.                                                                                             |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:FExx-8F13   | CNI Initialization Kernel Process (CNIINIT) timed out waiting on child process response to "START PROC" message.                                                                                       |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:FExx-8F14   | setimr() returned FAIL when attempting to allocate a timer for CNI Initialization Kernel Process (CNIINIT).                                                                                            |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F16   | CNI Initialization Kernel Process (CNIINIT) timed out waiting on signaling link monitor kernel (SLMK) response.                                                                                        |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F17   | No timers available for CNI Initialization Kernel Process (CNIINIT) non-critical initialization.                                                                                                       |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:FExx-8F20   | CNI Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to respond to level 1B request.                                                                   |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:FExx-8F22   | CNI Initialization Kernel Process (CNIINIT) detected failure of a critical process during level 1 initialization.                                                                                      |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:FExx-8F23   | CNI Initialization Kernel Process (CNIINIT) timed out waiting on Application Integrity Monitor (AIM) to respond to "BEGIN LEVEL 1" message.                                                            |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F25   | sendchild() returned FAIL when attempting to send "STOP_PROC" message to CNI Initialization Kernel Process (CNIINIT) non-critical process.                                                             |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F26   | CNI Initialization Kernel Process (CNIINIT) received operating system trap (OST) from wrong child process.                                                                                             |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F27   | CNI Initialization Kernel Process (CNIINIT) timed out waiting on child process response to "STOP_PROC" message.                                                                                        |
| 5E10 and later  |                                                                                                                                                                                                        |
| PRM:EEEx-8F29   | CNI Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor                                                                                                                        |

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| 5E10 and later | message switch (IMS) to respond to level 1B request.                                                                                               |
| PRM:EEEx-8F2B  | Error encountered by CNI Initialization Kernel Process (CNIINIT) at end of level 1 initialization.                                                 |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F2C  | CNI Initialization Kernel Process (CNIINIT) received operating system trap (OST) from wrong child process.                                         |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F2E  | No timers available for CNI Initialization Kernel Process (CNIINIT) at end of level 1 initialization.                                              |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F34  | sendevent() returned FAIL when attempting to send a message to signaling link monitor kernel (SLMK).                                               |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F38  | CNI Initialization Kernel Process (CNIINIT) error detected during system-wide initialization.                                                      |
| 5E10 and later |                                                                                                                                                    |
| PRM:FExx-8F39  | sendevent() returned FAIL during full process initialization (FPI).                                                                                |
| 5E10 and later |                                                                                                                                                    |
| PRM:FExx-8F3A  | Error encountered while informing Application Integrity Monitor (AIM) of "FAILED" CNI Initialization Kernel Process (CNIINIT) initialization.      |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F3B  | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) can not recover from non-critical initialization error.                     |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F3C  | CNI Initialization Kernel Process (CNIINIT) cannot begin non-critical initialization at this time.                                                 |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F3D  | CNI Initialization Kernel Process (CNIINIT) cannot begin non-critical initialization at this time.                                                 |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F3F  | No timers available for CNI Initialization Kernel Process (CNIINIT) non-critical initialization.                                                   |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F40  | surekill() returned FAIL during CNI Initialization Kernel Process (CNIINIT) non-critical initialization.                                           |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F41  | CNI Initialization Kernel Process (CNIINIT) detected an error in acknowledgment message from <i>UNIX</i> <sup>®</sup> RTR Operating System.        |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F42  | CNI Initialization Kernel Process (CNIINIT) timed out waiting on <i>UNIX</i> <sup>®</sup> RTR Operating System response.                           |
| 5E10 and later |                                                                                                                                                    |
| PRM:FExx-8F44  | No timers available for interprocessor message switch (IMS) ^non-critical initialization.                                                          |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F46  | CNI Initialization Kernel Process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to complete non-critical initialization.      |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F4B  | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) detected an error with a child process.                                     |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F4C  | CNI Initialization Kernel Process (CNIINIT) detected an error in an acknowledgment message from the <i>UNIX</i> <sup>®</sup> RTR Operating System. |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F4D  | CNI Initialization Kernel Process (CNIINIT) detected an error in an acknowledgment message from the <i>UNIX</i> <sup>®</sup> RTR Operating System. |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F4E  | CNI Initialization Kernel Process (CNIINIT) received operating system trap (OST) from wrong child process.                                         |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F4F  | CNI Initialization Kernel Process (CNIINIT) timed out waiting on the <i>UNIX</i> <sup>®</sup> RTR Operating System response.                       |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F50  | "sendchild()" returned FAIL when attempting to send "STOP_PROC" message to CNI Initialization Kernel Process (CNIINIT) child process.              |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F51  | CNI Initialization Kernel Process (CNIINIT) timed out waiting on child process response to "START_PROC" message.                                   |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F53  | No timers available for CNI Initialization Kernel Process (CNIINIT).                                                                               |
| 5E10 and later |                                                                                                                                                    |
| PRM:FExx-8F54  | No timers available for CNI Initialization Kernel Process (CNIINIT).                                                                               |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F58  | Level 0 initialization request received by CNI Initialization Kernel Process (CNIINIT) while currently in initialization.                          |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F5A  | CNI Initialization Kernel Process (CNIINIT) audit encountered too many errors.                                                                     |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F5F  | CNI Initialization Kernel Process (CNIINIT) is escalating from level 0 to level 1 initialization.                                                  |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F98  | CNI Initialization Kernel Process (CNIINIT) encountered an error while using "sendchild()".                                                        |
| 5E10 and later |                                                                                                                                                    |
| PRM:EEEx-8F99  | Common Network Interface (CNI) Initialization Kernel Process (CNIINIT) encountered                                                                 |

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| 5E10 and later                  | an error while using "surekill()".                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PRM:EEEx-8FA0<br>5E10 and later | Error encountered using "acknow()" to return creation messages to CNI Initialization Kernel Process (CNIINIT).                                                                                                                                                                                                                                                                                                                                                                             |
| PRM:EEEx-8FA6<br>5E10 and later | Parameter passed to CNI Initialization Kernel Process (CNIINIT) "canceltmr()" was out of range.                                                                                                                                                                                                                                                                                                                                                                                            |
| PRM:FEEx-8FAA<br>5E10 and later | Error detected in CNI Initialization Kernel Process (CNIINIT) child process table.                                                                                                                                                                                                                                                                                                                                                                                                         |
| PRM:EEEx-8FAD<br>5E10 and later | Parameter passed to CNI Initialization Kernel Process (CNIINIT) "bumpnxttr()" was out of range.                                                                                                                                                                                                                                                                                                                                                                                            |
| PRM:EEEx-C000<br>5E10 and later | Non-Operating System for Distributed Switching (OSDS) ASSERT failure during an administrative module (AM) D2-D4 before normal operator output is operational.                                                                                                                                                                                                                                                                                                                              |
| PRM:EEEx-C100<br>5E10 and later | Failure of the process manager (PMGR) to create a non-essential or killable real time reliable operating system (UNIX® RTR Operating System) application process for AIM.                                                                                                                                                                                                                                                                                                                  |
| PRM:EEEx-C232<br>5E10 and later | Failure of the H2, H3, or H4~level hardware initialization step in SMKP.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PRM:EEEx-C235<br>5E10 and later | Failure of the communication link initialization phase in SMKP.                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PRM:EEEx-C237<br>5E10 and later | Failure of the enable fault recovery step in SMKP.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PRM:EEEx-C238<br>5E10 and later | Failure of an H3/H4 level communication module (CM) hardware initialization, while in minimum mode (MINMODE).                                                                                                                                                                                                                                                                                                                                                                              |
| PRM:EEEx-C250<br>5E10 and later | Report of a failed initialization for either a communication module processor (CMP), foundation peripheral controller (FPC), office network and timing complex (ONTC), message switch control unit (MSCU), or pump peripheral controller (PPC).                                                                                                                                                                                                                                            |
| PRM:EEEx-C25A<br>5E10 and later | Report of initialization failure of all module message processors (MMPs) on a message switch (MSGs) side.                                                                                                                                                                                                                                                                                                                                                                                  |
| PRM:EEEx-C25B<br>5E10 and later | Report that the active communication module processor (CMP) could not be linked during an administrative module (AM) initialization. This could be because either the CMPs could not be queried or the queries were inconsistent during the communication module (CM) hardware initialization phase, or the active CMP failed to be linked during the communication link phase of initialization. (A standby CMP deactivated prior to the AM initialization will not be made active.)      |
| PRM:EEEx-C25C<br>5E10 and later | The office network and timing complex (ONTC) initialization "watchdog timer" was exceeded.                                                                                                                                                                                                                                                                                                                                                                                                 |
| PRM:EEEx-C260<br>5E10 and later | Report of the detection and ordered removal of a faulty message switch control unit (MSCU), communication module processor (CMP), foundation peripheral controller (FPC), office network and timing complex (ONTC), module message processor (MMP), or pump peripheral controller (PPC).                                                                                                                                                                                                   |
| PRM:EEEx-C270<br>5E10 and later | Report of failure of an H2 initialization action.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PRM:EEEx-C271<br>5E10 and later | Report of ordered communication link (CLNK) removals.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PRM:EEEx-C272<br>5E10 and later | Report of a failure to remove the network clock (NCLK).                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PRM:EEEx-C274<br>5E10 and later | Report of a failure to remove message switch (MSGs) units as ordered by initialization control programs.                                                                                                                                                                                                                                                                                                                                                                                   |
| PRM:EEEx-C275<br>5E10 and later | A report from ICON or IFRS of one of the following failures: <ul style="list-style-type: none"> <li>(1) failure to set up a data delivery message to configure the dual link interfaces (DLIs).</li> <li>(2) failure to elevate a communication module processor (CMP) or foundation peripheral controller (FPC) or pump peripheral controller (PPC) from standby (STBY) to active (ACT).</li> <li>(3) failure to synchronize the module message processor (MMP) timing source.</li> </ul> |
| PRM:EEEx-C276                   | Failure of the communication link initialization step in SMKP.                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C277  | Report of ICON time-out on IFRS response to a request to remove faulty communication module (CM) units at the end of hardware initialization.                                                                               |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C278  | Report of ICON time-out on replacement of the initialization fault recovery strategies (IFRS) program with the switch maintenance analysis and recovery strategies (SMARS) program.                                         |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C279  | ICON/IFRS detected communication module (CM) duplex failure.                                                                                                                                                                |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C27A  | Notification of a single process purge (SPP) of ICON.                                                                                                                                                                       |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C27B  | Notification of a single process purge (SPP) of IFRS.                                                                                                                                                                       |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C27C  | Notification of SMKP escalation of communication module (CM) initialization in administrative module (AM) minimum mode.                                                                                                     |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C27D  | Notification of SMKP escalation of communication module (CM) initialization in normal mode.                                                                                                                                 |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C27E  | Failure of a time multiplexed switch (TMS) removal.                                                                                                                                                                         |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C27F  | Report of failure to set up normal central processor intervention (CPI) on major (simplex) dual link interfaces (DLIs).                                                                                                     |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C2A9  | Report of a "mixed" CM1/CM2 office configuration that does not have the appropriate force conditions on communication module (CM) hardware.                                                                                 |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C2AA  | Report that communication module (CM) "hardware forces" were applied automatically because no (or inadequate) forces were manually defined in an environment with mixed CM vintage.                                         |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C2F5  | Report of a failed SM database initialization (software level S5).                                                                                                                                                          |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C2F6  | Report of a failed SM database initialization (S6 software level).                                                                                                                                                          |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C2F7  | Report of a failed SM database initialization (S7 software level).                                                                                                                                                          |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C300  | Report of a switch maintenance kernel process (SMKP) fault during a D2-D4 administrative module (AM) initialization.                                                                                                        |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C400  | Report of an operational kernel process (OKP) fault during a D2-D4 administrative module (AM) initialization.                                                                                                               |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C5xx  | Switch maintenance kernel process (SMKP) ASSERT failure during an administrative module (AM) D2-D4 before normal operator output is operational.                                                                            |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C6xx  | Operational kernel process (OKP) ASSERT failure during an administrative module (AM) D2-D4 before normal operator output is operational.                                                                                    |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C7xx  | Recent change roll forward (RCRF) failure.                                                                                                                                                                                  |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C8xx  | PLOD failed to load ODD onto disk.                                                                                                                                                                                          |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-C900  | Fail to initialize data delivery in an AM initialization.                                                                                                                                                                   |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-CA00  | Application integrity monitor (AIM).                                                                                                                                                                                        |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:FEEx-CA00  | Fault recovery administrative module (AM) processor switch.                                                                                                                                                                 |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-CB00  | AIM <i>UNIX</i> ® RTR Operating System application process initialization failure.                                                                                                                                          |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-CC00  | CCSINIT killable <i>UNIX</i> ® RTR Operating System application process abort limit exceeded.                                                                                                                               |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-CCCC  | Common channel signaling (CCS) call processing is now available.                                                                                                                                                            |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-CD0x  | CCSINIT initialization failure during Common Network Interface (CNI) Level-3 (foundation peripheral controller [FPI]) or Level-4 (facility interface [FI]) initialization caused by a child process sequence state failure. |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-CE00  | AIM killable <i>UNIX</i> ® RTR Operating System application process abort limit exceeded.                                                                                                                                   |
| 5E10 and later |                                                                                                                                                                                                                             |
| PRM:EEEx-CF00  | SPY Facility initialization failure.                                                                                                                                                                                        |

|                                 |                                                                                                                                                                                                              |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5E10 and later                  |                                                                                                                                                                                                              |
| PRM:EEEx-DDxx<br>5E10 and later | UNIX <sup>®</sup> RTR Operating System Disk Data PRM indicating that disk data was read into main memory successfully.                                                                                       |
| PRM:EEEx-E100<br>5E10 and later | APPLHOOK unexpected death. (APPLHOOK is "A UNIX <sup>®</sup> RTR Application Process Used For Retrofit Process Control".)                                                                                    |
| PRM:EEEx-EEEE<br>5E10 and later | Non-common channel signaling (CCS) call processing is now available.                                                                                                                                         |
| PRM:EEEE-EEEE<br>5E10 and later | CC Diagnostic Phase.                                                                                                                                                                                         |
| PRM:EEEx-F0xx<br>5E10 and later | Failure when mounting the no5text or the no5odd disk partitions, or a failure to create the application integrity monitor (AIM) kernel process.                                                              |
| PRM:FExx-F0xx<br>5E10 and later | Failure when mounting the no5text or the no5odd disk partitions, or a failure to create the application integrity monitor (AIM) kernel process.                                                              |
| PRM:EEEx-FF02<br>5E10 and later | AIM process requests an administrative module (AM) phase [via a system integrity software inconsistency macro (ASSERT) call].                                                                                |
| PRM:FExx-FF02<br>5E10 and later | AIM process requests an administrative module (AM) phase [via a system integrity software inconsistency macro (ASSERT) call].                                                                                |
| PRM:EEEx-FF03<br>5E10 and later | Failure of the process manager (PMGR) to create an essential process for AIM.                                                                                                                                |
| PRM:FExx-FF03<br>5E10 and later | Failure of the process manager (PMGR) to create an essential process for AIM.                                                                                                                                |
| PRM:EEEx-FF05<br>5E10 and later | AIM essential UNIX <sup>®</sup> RTR Operating System application process initialization failure.                                                                                                             |
| PRM:FExx-FF05<br>5E10 and later | AIM essential UNIX <sup>®</sup> RTR Operating System application process initialization failure.                                                                                                             |
| PRM:EEEx-FF06<br>5E10 and later | AIM essential UNIX <sup>®</sup> RTR Operating System application process initialization timeout.                                                                                                             |
| PRM:FExx-FF06<br>5E10 and later | AIM essential UNIX <sup>®</sup> RTR Operating System application process initialization timeout.                                                                                                             |
| PRM:EEEx-FF07<br>5E10 and later | 5ESS <sup>®</sup> switch maintenance kernel process (SMKP) initialization progress timeout.                                                                                                                  |
| PRM:FExx-FF07<br>5E10 and later | 5ESS <sup>®</sup> switch maintenance kernel process (SMKP) initialization progress timeout.                                                                                                                  |
| PRM:EEEx-FF08<br>5E10 and later | Operational kernel process (OKP) initialization progress timeout.                                                                                                                                            |
| PRM:FExx-FF08<br>5E10 and later | Operational kernel process (OKP) initialization progress timeout.                                                                                                                                            |
| PRM:EEEx-FF09<br>5E10 and later | Switch maintenance kernel process (SMKP) detected lack of initialization progress.                                                                                                                           |
| PRM:FExx-FF09<br>5E10 and later | Switch maintenance kernel process (SMKP) detected lack of initialization progress.                                                                                                                           |
| PRM:EEEx-FF0A<br>5E10 and later | Operational kernel process (OKP) detected lack of initialization progress.                                                                                                                                   |
| PRM:FExx-FF0A<br>5E10 and later | Operational kernel process (OKP) detected lack of initialization progress.                                                                                                                                   |
| PRM:EEEx-FF0D<br>5E10 and later | AIM detected a lack of activity in a kernel process during normal operation of the administrative module (AM).                                                                                               |
| PRM:FExx-FF0D<br>5E10 and later | AIM detected a lack of activity in a kernel process during normal operation of the administrative module (AM).                                                                                               |
| PRM:EEEx-FF0E<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected lack of communications to all switching modules (SMs) during normal operation of the administrative module (AM). |
| PRM:FExx-FF0E<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected lack of communications to all switching modules (SMs) during normal operation of the administrative module (AM). |
| PRM:EEEx-FF0F<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected an excessive number of E-bit continuity failures.                                                                |
| PRM:FExx-FF0F<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected an excessive number of E-bit continuity failures.                                                                |
| PRM:EEEx-FF10                   | The integrity monitor (IM) process within the switch maintenance kernel process                                                                                                                              |



|                                 |                                                                                                                                                                                                                                |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5E10 and later                  | (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) message control blocks (MCBs).                                                                                                          |
| PRM:FExx-FF10<br>5E10 and later | The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) message control blocks (MCBs).                          |
| PRM:EEEx-FF11<br>5E10 and later | The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of Operating System for Distributed Switching (OSDS) timing control blocks (TCBs).                           |
| PRM:FExx-FF11<br>5E10 and later | The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of Operating System for Distributed Switching (OSDS) timing control blocks (TCBs).                           |
| PRM:EEEx-FF12<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) message control blocks (MCBs).                                  |
| PRM:FExx-FF12<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) message control blocks (MCBs).                                  |
| PRM:EEEx-FF13<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) timing control blocks (TCBs).                                   |
| PRM:FExx-FF13<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) timing control blocks (TCBs).                                   |
| PRM:EEEx-FF14<br>5E10 and later | The system integrity control (SICO) operating system for distributed switching (OSDS) process within the operational kernel process (OKP) has allowed software escalation of OKP.                                              |
| PRM:FExx-FF14<br>5E10 and later | The system integrity control (SICO) operating system for distributed switching (OSDS) process within the operational kernel process (OKP) has allowed software escalation of OKP.                                              |
| PRM:EEEx-FF15<br>5E10 and later | The switch maintenance system integrity control (SMICO) operating system for distributed switching (OSDS) process within the switch maintenance kernel process (SMKP) has allowed software escalation of SMKP.                 |
| PRM:FExx-FF15<br>5E10 and later | The switch maintenance system integrity control (SMICO) operating system for distributed switching (OSDS) process within the switch maintenance kernel process (SMKP) has allowed software escalation of SMKP.                 |
| PRM:EEEx-FF16<br>5E10 and later | Switch maintenance kernel process (SMKP) abort counter overflow.                                                                                                                                                               |
| PRM:FExx-FF16<br>5E10 and later | Switch maintenance kernel process (SMKP) abort counter overflow.                                                                                                                                                               |
| PRM:EEEx-FF17<br>5E10 and later | OSSENDMSG() failed during an administrative module (AM) initialization.                                                                                                                                                        |
| PRM:FExx-FF17<br>5E10 and later | OSSENDMSG() failed during an administrative module (AM) initialization.                                                                                                                                                        |
| PRM:EEEx-FF18<br>5E10 and later | OSTIMER() failed during an administrative module (AM) initialization.                                                                                                                                                          |
| PRM:FExx-FF18<br>5E10 and later | OSTIMER() failed during an administrative module (AM) initialization.                                                                                                                                                          |
| PRM:EEEx-FF19<br>5E10 and later | The switch maintenance system integrity control (SMICO) operating system for distributed switching (OSDS) process within the switch maintenance kernel process (SMKP) monitor fault recovery (FR) activity counter overflowed. |
| PRM:FExx-FF19<br>5E10 and later | The switch maintenance system integrity control (SMICO) operating system for distributed switching (OSDS) process within the switch maintenance kernel process (SMKP) monitor fault recovery (FR) activity counter overflowed. |
| PRM:EEEx-FF1A<br>5E10 and later | Directed audit exceeded time limit.                                                                                                                                                                                            |
| PRM:FExx-FF1A<br>5E10 and later | Directed audit exceeded time limit.                                                                                                                                                                                            |
| PRM:EEEx-FF1B<br>5E10 and later | Essential UNIX <sup>®</sup> RTR Operating System application process full process initialization (FPI) timeout.                                                                                                                |

|                                 |                                                                                                                                                                                                                                                                                                               |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRM:FEEx-FF1B<br>5E10 and later | Essential <i>UNIX</i> ® RTR Operating System application process full process initialization (FPI) timeout.                                                                                                                                                                                                   |
| PRM:EEEx-FF1C<br>5E10 and later | Automatic escalation of a <i>UNIX</i> ® RTR Operating System D1 initialization (that is, 51) to a high-level initialization.                                                                                                                                                                                  |
| PRM:FEEx-FF1C<br>5E10 and later | Automatic escalation of a <i>UNIX</i> ® RTR Operating System D1 initialization (that is, 51) to a high-level initialization.                                                                                                                                                                                  |
| PRM:EEEx-FF1E<br>5E10 and later | AMcptelps requested a conditional or unconditional full process initialization (FPI) of an automatic message accounting disk writer kernel process (AMDW).                                                                                                                                                    |
| PRM:EEEx-FF1F<br>5E10 and later | <i>UNIX</i> ® RTR Operating System application process full process initialization (FPI) request.                                                                                                                                                                                                             |
| PRM:FEEx-FF1F<br>5E10 and later | <i>UNIX</i> ® RTR Operating System application process full process initialization (FPI) request.                                                                                                                                                                                                             |
| PRM:EEEx-FF20<br>5E10 and later | Failure to load office dependent data (ODD) into the protected application segment (PAS) of administrative module (AM) main memory. AIM uses the process manager (PMGR) to create the <i>UNIX</i> ® RTR Operating System application kernel process for loading ODD into PAS (PLOP) to perform this function. |
| PRM:FEEx-FF20<br>5E10 and later | Failure to load office dependent data (ODD) into the protected application segment (PAS) of administrative module (AM) main memory. AIM uses the process manager (PMGR) to create the <i>UNIX</i> ® RTR Operating System application kernel process for loading ODD into PAS (PLOP) to perform this function. |
| PRM:EEEx-FF21<br>5E10 and later | Failure to get AIM's process number from portid.                                                                                                                                                                                                                                                              |
| PRM:FEEx-FF21<br>5E10 and later | Failure to get AIM's process number from portid.                                                                                                                                                                                                                                                              |
| PRM:EEEx-FF22<br>5E10 and later | Lack of integrity monitor (IM) activity in the switch maintenance kernel process (SMKP).                                                                                                                                                                                                                      |
| PRM:FEEx-FF22<br>5E10 and later | Lack of integrity monitor (IM) activity in the switch maintenance kernel process (SMKP).                                                                                                                                                                                                                      |
| PRM:EEEx-FF23<br>5E10 and later | Lack of integrity monitor (IM) activity in the operational kernel process (OKP).                                                                                                                                                                                                                              |
| PRM:FEEx-FF23<br>5E10 and later | Lack of integrity monitor (IM) activity in the operational kernel process (OKP).                                                                                                                                                                                                                              |
| PRM:EEEx-FF24<br>5E10 and later | Lack of call processing activity in the operational kernel process (OKP).                                                                                                                                                                                                                                     |
| PRM:FEEx-FF24<br>5E10 and later | Lack of call processing activity in the operational kernel process (OKP).                                                                                                                                                                                                                                     |
| PRM:EEEx-FF25<br>5E10 and later | The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) process control blocks (PCBs).                                                                                                         |
| PRM:FEEx-FF25<br>5E10 and later | The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) process control blocks (PCBs).                                                                                                         |
| PRM:EEEx-FF26<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) process control blocks (PCBs).                                                                                                                 |
| PRM:FEEx-FF26<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) process control blocks (PCBs).                                                                                                                 |
| PRM:EEEx-FF27<br>5E10 and later | The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) stack control blocks (SCBs).                                                                                                           |
| PRM:FEEx-FF27<br>5E10 and later | The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) stack control blocks (SCBs).                                                                                                           |
| PRM:EEEx-FF28<br>5E10 and later | The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) stack control blocks (SCBs).                                                                                                                   |
| PRM:FEEx-FF28                   | The integrity monitor (IM) process within the operational kernel process (OKP) has                                                                                                                                                                                                                            |

|                                 |                                                                                                                                                                                                                                                                   |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5E10 and later                  | detected an exhaustion of operating system for distributed switching (OSDS) stack control blocks (SCBs).                                                                                                                                                          |
| PRM:EEEx-FF2D<br>5E10 and later | Common network interface (CNI) ring initialization request phase trigger.                                                                                                                                                                                         |
| PRM:FEEx-FF2D<br>5E10 and later | Common network interface (CNI) ring initialization request phase trigger.                                                                                                                                                                                         |
| PRM:EEEx-FF64<br>5E10 and later | Application integrity monitor (AIM) has purged the pump control (PUCR) process.                                                                                                                                                                                   |
| PRM:EEEx-FF80<br>5E10 and later | Switch maintenance kernel process (SMKP) peripheral configuration data (PCD) inconsistency.                                                                                                                                                                       |
| PRM:FEEx-FF80<br>5E10 and later | Switch maintenance kernel process (SMKP) peripheral configuration data (PCD) inconsistency.                                                                                                                                                                       |
| PRM:EEEx-FF81<br>5E10 and later | Switch maintenance kernel process (SMKP) peripheral configuration data (PCD) initialization was unable to obtain essential information from the office dependent data (ODD) in the protected application segment (PAS) in administrative module (AM) main memory. |
| PRM:FEEx-FF81<br>5E10 and later | Switch maintenance kernel process (SMKP) peripheral configuration data (PCD) initialization was unable to obtain essential information from the office dependent data (ODD) in the protected application segment (PAS) in administrative module (AM) main memory. |
| PRM:EEEx-FF82<br>5E10 and later | Time multiplex switch (TMS) fault recovery duplex failure.                                                                                                                                                                                                        |
| PRM:FEEx-FF82<br>5E10 and later | Time multiplex switch (TMS) fault recovery duplex failure.                                                                                                                                                                                                        |
| PRM:EEEx-FF83<br>5E10 and later | Foundation peripheral controller (FPC) fault recovery duplex failure.                                                                                                                                                                                             |
| PRM:FEEx-FF83<br>5E10 and later | Foundation peripheral controller (FPC) fault recovery duplex failure.                                                                                                                                                                                             |
| PRM:EEEx-FF84<br>5E10 and later | Message switch control unit (MSCU) fault recovery duplex failure.                                                                                                                                                                                                 |
| PRM:FEEx-FF84<br>5E10 and later | Message switch control unit (MSCU) fault recovery duplex failure.                                                                                                                                                                                                 |
| PRM:EEEx-FF87<br>5E10 and later | Communication Module Processor (CMP) fault recovery duplex failure.                                                                                                                                                                                               |
| PRM:FEEx-FF87<br>5E10 and later | Communication Module Processor (CMP) fault recovery duplex failure.                                                                                                                                                                                               |
| PRM:EEEx-FF88<br>5E10 and later | AIM report of a switch maintenance kernel process (SMKP) initialization failure, probably caused by communication module (CM) hardware or related software.                                                                                                       |
| PRM:FEEx-FF88<br>5E10 and later | AIM report of a switch maintenance kernel process (SMKP) initialization failure, probably caused by communication module (CM) hardware or related software.                                                                                                       |
| PRM:EEEx-FF99<br>5E10 and later | Excessive software errors in the message switch kernel process (MSKP).                                                                                                                                                                                            |
| PRM:FEEx-FF99<br>5E10 and later | Excessive software errors in the message switch kernel process (MSKP).                                                                                                                                                                                            |

### 1.15 MAJOR STEP F - TEST PRM

| Message ID/Release              | Function             |
|---------------------------------|----------------------|
| PRM:FFFF-FFFF<br>5E10 and later | CC Diagnostic Phase. |

## 4. Appendixes

**APP:AM-PROCESS**

Software Release: 5E10 and later

**1. AM PROCESSES****1.1 UNIX® RTR Operating System Supervisor Processes**

| PROCESS | PRI | APPL                          | CREATOR | CRIT | DESCRIPTION                           |
|---------|-----|-------------------------------|---------|------|---------------------------------------|
| audmgr  | 1   | UNIX® RTR<br>operating system | SIM     | N    | Audit Manager                         |
| unix    | 0   | UNIX® RTR<br>operating system | SIM     |      | UNIX® RTR operating system supervisor |
| 3bnub   | 0   | UNIX® RTR<br>operating system | KCREATE | Y    | Creates supervisor processes          |
| pmgr    | 0   | UNIX® RTR<br>operating system | KCREATE | Y    | Process manager                       |
| dufr    | 0   | UNIX® RTR<br>operating system |         | N    | Dynamic update for func. replacement  |

| PROCESS | UTID | UTID | PT | ATB | PATHNAME          |
|---------|------|------|----|-----|-------------------|
| audmgr  |      |      |    |     |                   |
| unix    |      |      |    |     |                   |
| 3bnub   | 8    | 8    |    |     | /bootfiles/3bnum  |
| pmgr    | 5    | 5    |    |     | /bootfiles/3bpmgr |
| dufr    | 104  | 260  |    |     | /prc/dufr         |

**1.2 High Priority Kernel Processes Involved in the 5ESS® Switch Initialization Sequence**

| PROCESS  | PRI | APPL                          | CREATOR | CRIT | DESCRIPTION                                   |
|----------|-----|-------------------------------|---------|------|-----------------------------------------------|
| pcpeih   | 15  | UNIX® RTR<br>operating system | KCREATE | Y    | Proc control Proc error interrupt handler     |
| recovdat | 14  | UNIX® RTR<br>operating system |         | N    | Panic dump                                    |
| sim      | 13  | UNIX® RTR<br>operating system | KCREATE | Y    | System integrity monitor                      |
| aim      | 13  | 5ESS® switch                  | PMKP    | Y    | Application integrity monitor                 |
| pmkp     | 12  | 5ESS® switch                  | PCREATE | Y    | Partition mounting KP                         |
| plop     | 12  | 5ESS® switch                  | AIM     | Y    | Prol for loading ODD to PAS                   |
| smkp     | 11  | 5ESS® switch                  | AIM     | Y    | Switch maintenance KP                         |
| CNIINIT  | 11  | CNI                           | AIM     | Y    | Common network interface (CNI) initialization |
| fda      | 11  | UNIX® RTR<br>operating system | AIM     | Y    | FIFO driver                                   |
| tdtp     | 11  | IMS                           | TDGP    | N    | Trace driver                                  |
| dkdrv    | 10  | UNIX® RTR<br>operating system | KCREATE | Y    | Disk driver                                   |
| dsch     | 10  | UNIX® RTR<br>operating system |         | Y    | Dual serial channel driver                    |
| iodrv    | 10  | UNIX® RTR<br>operating system | AIM     | Y    | Input/output driver                           |
| mskp     | 10  | 5ESS® switch                  | AIM     | Y    | Message switch KP                             |
| imsdrv   | 10  | IMS                           | CNIINIT | Y    | Interprocessor message switch (IMS) driver    |
| amdw1    | 9   | 5ESS® switch                  | AIM     | Y    | AMA disk writer 1                             |
| amdw2    | 9   | 5ESS® switch                  | AIM     | Y    | AMA disk writer 2                             |
| ringmon  | 9   | 5ESS® switch                  | AIM     | Y    | CNI ring monitor                              |
| CNIDBAK  | 9   | CNI                           | CNIINIT | N    | Main memory update process                    |
| okp      | 8   | 5ESS® switch                  | AIM     | Y    | 5ESS® switch operational KP                   |
| rckp     | 8   | 5ESS® switch                  | AIM     | Y    | Recent change KP                              |

|        |   |                                           |         |   |                                      |
|--------|---|-------------------------------------------|---------|---|--------------------------------------|
| fmgr   | 7 | UNIX <sup>®</sup> RTR<br>operating system | KCREATE | Y | File manager                         |
| SLMK   | 7 | CNI                                       | CNIINIT | Y | Signaling link monitor KP            |
| cmkp   | 6 | 5ESS <sup>®</sup> switch                  | AIM     | Y | Communication package KP             |
| apdl   | 6 | 5ESS <sup>®</sup> switch                  | AIM     | N | Application data link                |
| msdc   | 6 | IMS                                       | IMSDRV  | N | Measurement process                  |
| dschex | 5 | UNIX <sup>®</sup> RTR<br>operating system |         | N | CCIOBS/DSCH link DGN driver          |
| ecdman | 5 | UNIX <sup>®</sup> RTR<br>operating system |         | Y | ECD manager (event)                  |
| inhadm | 4 | UNIX <sup>®</sup> RTR<br>operating system |         | Y | Error source inhibit administration  |
| memprc | 4 | UNIX <sup>®</sup> RTR<br>operating system |         | Y | Memory driver for /dev/mem           |
| scsd   | 4 | UNIX <sup>®</sup> RTR<br>operating system | AIM     | Y | Scanner/signal distr. administration |

| PROCESS  | UTID | UTID | PT  | ATB | PATHNAME                    |
|----------|------|------|-----|-----|-----------------------------|
| pcpeih   | 83   | 131  | 19  |     | /bootfiles/eih              |
| recovdat | 375  | 885  |     |     |                             |
| sim      | 187  | 391  | 12  |     | /bootfiles/simprc           |
| aim      | 400  | 1024 | 15  |     | /prc/aim                    |
| pmkp     | 583  | 1411 |     |     | /prc/pmkp                   |
| plop     | 590  | 1424 |     |     | /no5text/prc/plop           |
| smkp     | 410  | 1040 | 55  |     | /no5text/prc/smkp           |
| CNIINIT  | 4e4  | 1252 | 52  |     | /no5text/cni/proc/CNIINIT   |
| fda      | 17   | 23   |     |     | /prc/fda                    |
| tdtp     | 680  | 1664 |     |     | /prc/cdz                    |
| dkdrv    | c1   | 193  | 6   |     | /bootfiles/dkdrv            |
| dsch     |      |      | 24  |     |                             |
| iodrv    | c0   | 192  |     |     | /prc/bdf                    |
| mskp     | 430  | 1072 | 76  |     | /no5text/prc/mskp           |
| imsdrv   | 673  | 1651 |     |     | /no5text/ims/proc/imsdrv.p  |
| amdww1   | 7dd  | 2013 | 93  |     | /no5text/prc/amdwoc         |
| amdww2   | 7ce  | 1998 | 111 |     | /no5text/prc/amdwic         |
| ringmon  | 47a  | 1146 | 110 |     | /no5text/ccs/proc/CCringmon |
| CNIDBAK  | 4db  | 1243 |     |     | /no5text/cni/proc/CNIDBAK   |
| okp      | 460  | 1120 | 54  |     | /no5text/prc/okp            |
| rckp     | 455  | 1109 | 168 |     | /no5text/prc/rckp           |
| fmgr     | 4    | 4    |     |     | /bootfile/fmprc             |
| SLMK     | 4ff  | 1279 |     |     | /no5text/cni/proc/SLMK      |
| cmkp     | 420  | 1056 | 52  |     | /no5text/prc/cmkp           |
| apdl     | 407  | 1031 | 109 |     | /no5text/prc/apdl           |
| msdc     | 67a  | 1658 |     |     | /no5text/ims/proc/msdc.p    |
| dschex   |      |      |     |     |                             |
| ecdman   | 41   | 65   |     |     |                             |
| inhadm   | 86   | 134  | 16  |     | /bootfiles/inhadm           |
| memprc   | f    | 15   |     |     |                             |
| scsd     | c2   | 194  | 10  |     | /prc/scsd                   |

### 1.3 Low Priority Kernel Processes Involved in the 5ESS<sup>®</sup> Switch Initialization Sequence

| PROCESS  | PRI | APPL                                      | CREATOR | CRIT | DESCRIPTION                         |
|----------|-----|-------------------------------------------|---------|------|-------------------------------------|
| op_rtm   | 5   | IMS                                       | IMSDRV  | N    | Real time monitor                   |
| pcpau    | 3   | UNIX <sup>®</sup> RTR<br>operating system | KCREATE | Y    | Hardware audit                      |
| CMMSADM  | 3   | CNI                                       | CNIINIT | N    | Measurement data collection process |
| ecdaud   | 3   | UNIX <sup>®</sup> RTR<br>operating system |         | N    | ECD structure audit                 |
| fsaud    | 3   | UNIX <sup>®</sup> RTR<br>operating system |         | N    | File system audit                   |
| gspovmon | 3   | UNIX <sup>®</sup> RTR<br>operating system |         | N    | Graph overload monitor              |
|          |     |                                           |         |      |                                     |

|         |   |                                           |         |   |                                                  |
|---------|---|-------------------------------------------|---------|---|--------------------------------------------------|
| klmon   | 3 | UNIX <sup>®</sup> RTR<br>operating system | AIM     | N | Kernel level overload monitor                    |
| kop     | 3 | UNIX <sup>®</sup> RTR<br>operating system |         | N | Kernel overwrite process                         |
| pcpmd   | 3 | UNIX <sup>®</sup> RTR<br>operating system |         | N | Proc control Proc/Mtce driver                    |
| pldmon  | 3 | UNIX <sup>®</sup> RTR<br>operating system | AIM     | N | Plant measurement DB monitor.                    |
| tucd    | 3 | UNIX <sup>®</sup> RTR<br>operating system |         | N | Test utility driver                              |
| cpmgr   | 2 | UNIX <sup>®</sup> RTR<br>operating system | KCREATE | Y | Capability manager                               |
| mmgr    | 2 | UNIX <sup>®</sup> RTR<br>operating system | KCREATE | Y | Memory manager                                   |
| sched   | 2 | UNIX <sup>®</sup> RTR<br>operating system | KCREATE | Y | UNIX <sup>®</sup> RTR operating system scheduler |
| umgr    | 2 | UNIX <sup>®</sup> RTR<br>operating system | KCREATE | Y | Utility manager                                  |
| kaudprc | 2 | UNIX <sup>®</sup> RTR<br>operating system | SIM     | N | Kernal audit process                             |
| suovprc | 1 | UNIX <sup>®</sup> RTR<br>operating system | AIM     | N | SP/user overload monitor                         |

| PROCESS  | UTID | UTID | PT | ATB | PATHNAME                   |
|----------|------|------|----|-----|----------------------------|
| op_rtm   | 681  | 1665 |    |     | /no5text/ims/proc/op_rtm.p |
| pcpauld  | 85   | 133  |    |     | /bootfiles/pcpauld.g       |
| CMMSADM  | 4fa  | 1274 |    |     | /no5text/cni/proc/CMMSADM  |
| ecdaud   | 1a2  | 418  |    |     |                            |
| fsaud    | 192  | 402  |    |     | /prc/fsaudit               |
| gspovmon | 111  | 273  |    |     | /pcr/fspovmon              |
| klmon    | 186  | 390  |    |     | /prc/klmon                 |
| kop      | 105  | 261  |    |     | /prc/kop                   |
| pcpmd    | 82   | 130  |    |     |                            |
| pldmon   | 117  | 279  | 27 |     | /pcr/pldmon                |
| tucd     |      |      |    |     |                            |
| cpmgr    | 2    | 2    | 29 |     | /bootfiles/3bsgen.kern     |
| mmgr     | 1    | 1    | 29 |     | /bootfiles/3bsgen.kern     |
| sched    | 9    | 9    | 29 |     | /bootfiles/3bsgen.kern     |
| umgr     | 3    | 3    | 29 |     | /bootfiles/3bsgen.kern     |
| kaudprc  | 6    | 6    |    |     |                            |
| suovprc  | 188  | 392  |    |     | /pcr/suovptc               |

#### 1.4 5ESS<sup>®</sup> Switch UNIX<sup>®</sup> RTR Operating System Processes

| PROCESS | PRI | CREATOR                                   | CRIT | DESCRIPTION                           |
|---------|-----|-------------------------------------------|------|---------------------------------------|
| plod    | 15S | AIM                                       | Y    | Process to load ODD onto disk         |
| pucr    | 14S | AIM                                       | N    | Switch module pump control            |
| fpump   | 14S | PUCR                                      | N    | Switch module fast pump               |
| ctspump | 14S | PUCR                                      | N    | Switch module CTS pump                |
| ularp   | 11  | UNIX <sup>®</sup> RTR operating<br>system | Y    | User level auto restart process       |
| SMdimp  | 11  | AIM                                       | N    | Switch Mtce DGN input message process |
| SMpsm   | 8   | AIM                                       | N    | Switch Mtce power switch monitor      |
| dmon    | 8   |                                           | N    | Diagnostic monitor                    |
| cpdiagc | 8   |                                           | N    | AM diagnostic control                 |
| cptlpr  | 8   |                                           | N    | AM TBL location procedure             |
| SMdomp  | 8   |                                           | N    | SM DGN output message process         |
| SMiiau  | 8   |                                           | N    | SM interrupt inhibit administration   |
| SMaprts | 3   | CMON                                      | N    | Application real time status          |
| RCRF    |     | AIM                                       | Y    | Recent change roll forward            |
| cprs    |     |                                           | N    | AM REX scheduler                      |

| PROCESS | UTID (hex) | UTID | PT | ATB | PATHNAME |
|---------|------------|------|----|-----|----------|
|---------|------------|------|----|-----|----------|

|         |     |      |     |                           |
|---------|-----|------|-----|---------------------------|
| plod    | 406 | 1030 |     | /no5text/prc/plod         |
| pucr    | 450 | 1104 | 62  | /no5text/prc/pucr         |
| fpump   | 441 | 1089 | 82  | /no5text/prc/fpump        |
| ctspump | 440 | 1088 | 104 | /no5text/prc/ctspump      |
| ularp   | 8b  | 139  |     | /etc/ularp                |
| SMdimp  | 710 | 1808 | 72  | /no5text/prc/SMdimp       |
| SMpsm   | 411 | 1041 | 98  | /no5text/prc/SMpsm        |
| dmon    | 473 | 1139 |     | /no5text/diag/dgnc/dmon   |
| cpdiagc | 480 | 1152 | 69  | /cpdiagc                  |
| cptlpr  | 490 | 1168 |     | /no5text/diag/dgnc/cptlpr |
| SMdomp  | 720 | 1824 | 73  |                           |
| SMiiu   | 5d1 | 1489 |     | /no5text/prc/SMiiu        |
| SMaprts | 510 | 1472 |     | /no5text/prc/SMaprts      |
| DBLGIR# | 599 | 1433 | 88  | /no5text/rcv/lginitroll   |
| cprs    | 472 | 1138 |     | /no5text/diag/dgnc/cprs   |

# Also known as recent change roll forward (RCRF).

## 1.5 CNI *UNIX*® RTR Operating System Processes

| PROCESS  | PRI | CREATOR | CRIT | DESCRIPTION                                     |
|----------|-----|---------|------|-------------------------------------------------|
| CMMSDP   |     | CNIINIT | N    |                                                 |
| CNIER    |     | CNIINIT | N    |                                                 |
| SLMTIME  |     | CNIINIT | N    | CNI timing process                              |
| LCDVER   |     |         | N    | Link data entry process                         |
| LCD3B    |     |         | N    | Link data verify process                        |
| CNIDBA   |     |         | N    | CNI database disk update                        |
| SLKVER   |     |         | N    | Logical to physical translation task verify     |
| PXLCREAT |     |         | N    | Physical to logical translation table generator |
| MONSLK   |     |         | N    | Link monitor craft command process              |
| REPORT   |     |         | N    | Link status command                             |
| CHG      |     |         | N    | Link minor state change craft command process   |
| INH      |     |         | N    | Inhibit SLK craft command process               |
| SLKASGN  |     |         | N    | Logical to physical translation table generator |

| PROCESS  | UTID | UTID | PT | ATB | PATHNAME                   |
|----------|------|------|----|-----|----------------------------|
| CMMSDP   | 4fc  | 1276 |    |     | /no5text/cni/proc/CMMSDP   |
| CNIER    |      |      |    |     | /no5text/cni/proc/CNIER    |
| SLMTIME  | 501  | 1281 |    |     | /no5text/cni/proSLMTIME    |
| LCDVER   | 4dd  | 1245 |    |     | /no5text/cni/proc/LCDVER   |
| LCD3B    |      |      |    |     | /no5text/cni/proc/LCD3B    |
| CNIDBA   | 4da  | 1242 |    |     | /no5text/cni/proc/CNIDBA   |
| SLKVER   | 4e0  | 1248 |    |     | /no5text/cni/proc/SLKVER   |
| PXLCREAT | 4de  | 1246 |    |     | /no5text/cni/proc/PLXCREAT |
| MONSLK   | 4d3  | 1235 |    |     |                            |
| REPORT   | 4d5  | 1237 |    |     |                            |
| CHG      | 4d6  | 1238 |    |     |                            |
| INH      | 4d7  | 1239 |    |     |                            |
| SLKASGN  | 4df  | 1247 |    |     |                            |

## 1.6 *UNIX*® RTR Operating System ULARP Processes

| PROCESS  | EXEC# | PRI | SS                                    | CRIT | DESCRIPTION                                       |
|----------|-------|-----|---------------------------------------|------|---------------------------------------------------|
| SIULARP1 | 5     | 11  | SI                                    | Y    | SI ULARP monitor                                  |
| MNTTMP   | 7     | 11  | DMERT                                 | Y    | Mounts the /tmp disk partition                    |
| MCCFTLNK | 10    | 3   | HM                                    | Y    | Link Master Control Center (MCC) craft disk files |
| CFTLNK   | 20    | 11  | HM                                    | Y    | Link craft disk files                             |
| CDFCHK   | 100   | 11  | HM                                    | Y    |                                                   |
| CMON     | 190   | 11  | HM                                    | Y    | Craft interface integrity monitor                 |
| DAP      | 200   | 11  | HM                                    | Y    | Display administrative process                    |
| RTS      | 220   | 11  | HM                                    | Y    | Real time status reports                          |
| RMF      | 230   | 3   | HM                                    | Y    | Recovery message formatter                        |
| CSOP     | 300   | 10  | HM                                    | Y    | Coordinator of spooler output                     |
| DKDIP    | 500   | 11  | HM                                    | Y    |                                                   |
| ERRPORT  | 900   | 3   | HM                                    | Y    | Error port process                                |
| SIULARP2 | 950   | 11  | SI                                    | Y    | SI ULARP monitor                                  |
| MIRA     | 1000  | 9   | <i>UNIX</i> ® RTR<br>operating system | N    | Mtce input request administration                 |



|           |      |    |                               |   |                                                       |
|-----------|------|----|-------------------------------|---|-------------------------------------------------------|
| CCPGEUPDT | 1001 | 10 | HM                            | Y | CCS MCC page updates                                  |
| ADP       | 1100 | 3  | DG                            | N | Automatic diagnostic process                          |
| SIULARP3  | 1150 | 11 | SI                            | Y | SI ULARP monitor                                      |
| TMRMSRD1  | 1170 | 3  | TM                            | N |                                                       |
| TMRMSSWR1 | 1170 | 3  | TM                            | N |                                                       |
| PSM       | 1200 | 11 | UNIX® RTR<br>operating system | N | UNIX® RTR operating system power switch<br>monitor    |
| PMCRMAN   | 1300 | 3  |                               |   |                                                       |
| RCFMSYS   | 1398 | 7  | RC/DB                         | N |                                                       |
| FSMON     | 1400 | 3  | UNIX® RTR<br>operating system |   | File system monitor                                   |
| PTNMOUT   | 1530 | 3  |                               |   | Partition mount (30 sec sleep)                        |
| MNTUXABF  | 1531 | 3  |                               |   | Partition mount (30 sec sleep)                        |
| SMODD1    | 1532 | 3  |                               |   | -(30 sec sleep)                                       |
| WELRMAIN  | 1560 | 3  |                               |   |                                                       |
| WELSMAN   | 1570 | 3  |                               |   |                                                       |
| CPRS      | 1590 | 3  |                               |   | AM REX scheduler                                      |
| SIOF      | 1600 | 3  | SI                            |   | System integrity output formatter                     |
| LGCNTL    | 1640 | 3  | RC/DB                         | N | RC logging control                                    |
| LGDEC     | 1641 | 3  | RC/DB                         | N |                                                       |
| LGLOG     | 1650 | 3  | RC/DB                         | N | RC logging                                            |
| LGCRG     | 1651 | 3  | RC/DB                         | N | CORC logging                                          |
| BKNTL     | 1655 | 8  | RC/DB                         | N | ODD backout control                                   |
| ODDGRW    | 1660 | 8  | RC/DB                         | N | 5ESS® switch ODD growth                               |
| UNXGRWPAR | 1661 | 8  |                               |   |                                                       |
| SIULARP4  | 1663 | 11 | SI                            | N | SI ULARP monitor                                      |
| DSPSUP    | 1665 | 8  | DG                            | N | Diagnostic paging supervisor                          |
| UPSETIND  | 1670 | 3  |                               |   |                                                       |
| UTCP3B    | 1675 | 3  | UNIX® RTR<br>operating system | N | Administrative module (AM) utilities                  |
| RCCP3B    | 1680 | 3  | RC/DB                         | N |                                                       |
| SMIIAU    | 1685 | 8  | SM                            | N | Interrupt inhibit/allow UNIX® RTR operating<br>system |
| ECAP      | 1690 | 11 | AS                            | N | EDLCP administration process                          |
| UPDATE    | 1700 | 7  | UP                            | N | Field update controller                               |
| ECR3      | 1710 | 9  | AS                            | N | EDLCP read EADAS HP                                   |
| ECR4      | 1715 | 8  | AS                            | N | EDLCP read EADAS LP                                   |
| ECR5      | 1720 | 8  | AS                            | N | EDLCP read SES                                        |
| ECR6      | 1725 | 9  | AS                            | N | EDLCP read EADAS MP                                   |
| ECW6      | 1730 | 9  | AS                            | N | EDLCP write EADAS MP                                  |
| ECW3      | 1735 | 9  | AS                            | N | EDLCP write EADAS HP                                  |
| ECW4      | 1740 | 8  | AS                            | N | EDLCP write EADAS LP                                  |
| ECW5      | 1745 | 8  | AS                            | N | EDLCP write SES                                       |
| SIRCBK    | 1750 | 7  | SI                            | N | Recent change backout                                 |
| SIOFFN    | 1755 | 9  | SI                            | N | Offnorm status summary report                         |
| CTRD      | 1765 | 8  | TM                            | N | CTTU reader                                           |
| UPRBT     | 1766 | 3  | UP                            | N | Program update                                        |
| CTWR      | 1770 | 3  | TM                            | N | CTTU write                                            |
| RCCNTL    | 1775 | 3  | RC/DB                         | N | Recent change control                                 |
| UPPCTL    | 1780 | 3  | UP                            | N | Program update control                                |
| RCCP3BOFR | 1785 | 3  | RC/DB                         | N | Recent change                                         |
| RCASRSYS  | 1788 | 3  | RC/DB                         | N | Recent change                                         |
| SIULARP5  | 1789 | 11 | SI                            | N | SI ULARP monitor                                      |
| AMMONOC   | 1790 | 3  |                               | N |                                                       |
| AMMONIC   | 1795 | 3  |                               | N |                                                       |
| AMREX     | 1805 | 3  |                               | N | AM routine exercise                                   |
| CRONAP    | 2015 | 3  |                               | N | Application CRON                                      |
| MLWR      | 2019 | 8  | TM                            | N | Metallic loop test II writer                          |
| MLRD      | 2020 | 8  | TM                            | N | Metallic loop test II reader                          |
| INSTALL   | 2100 | 3  |                               | N |                                                       |
| LNDKDRV   | 2300 | 3  |                               | N |                                                       |
| PANICDMP  | 2301 | 7  | UNIX® RTR<br>operating system | N | Panic dump                                            |
| RCCCNTL   | 2355 | 3  | RC/DB                         | N |                                                       |
| ADPAB     | 2400 | 3  |                               | N | Auto DGN Prol after boot                              |
| SDLRTC    | 2401 | 6  | UNIX® RTR<br>operating system | N | SDL link restore                                      |
| RCDAMON   | 2405 | 3  | RC/DB                         | N |                                                       |

|          |       |    |                                           |   |                                   |
|----------|-------|----|-------------------------------------------|---|-----------------------------------|
| ASCOTSYS | 2405  | 3  | AS                                        | N |                                   |
| SDLRTN   | 2500  | 6  | UNIX <sup>®</sup> RTR<br>operating system | N | SDL link restore                  |
| TX       | 2700  |    | UNIX <sup>®</sup> RTR<br>operating system | N |                                   |
| CIA      | 32700 | 11 | HM                                        | N | Critical indicator administration |
| SIULARP6 | 32750 | 11 | SI                                        | N | SI ULARP monitor                  |

| PROCESS   | UTID | UTID | PT  | ATB | PATHNAME                        |
|-----------|------|------|-----|-----|---------------------------------|
| SIULARP1  | 584  | 1412 | 190 |     | /no5text/prc/siularp            |
| MNTTMP    |      |      |     |     | /etc/mount/dev/tmp/tmp          |
| MCCFTLNK  | 3e8  | 1000 |     |     | /cft/mccftlnk                   |
| CFTLNK    | 3f7  | 1015 |     |     | /cft/cftlnk                     |
| CDFCHK    |      |      |     |     | /etc/cdfchk                     |
| CMON      | 555  | 1365 |     |     | /no5text/hm/cmon stype          |
| DAP       | 203  | 515  | 9   |     | /cft/dap/dap stype              |
| RTS       | 206  | 518  | 17  |     | /cft/rts                        |
| RMF       | 84   | 132  | 14  |     | /cft/misc/rmf                   |
| CSOP      | 209  | 521  |     |     | /cft/spl/csop stype             |
| DKDIP     | da   | 218  |     |     | /cft/dap/dkdip                  |
| ERRPORT   | 200  | 512  |     |     | /bin/errport                    |
| SIULARP2  | 584  | 1412 | 190 |     | /no5text/prc/siularp            |
| MIRA      | 42   | 66   | 2   |     | /diag/dync/mira tty=ttya        |
|           |      |      |     |     | dir=/diag/dync conc=31 mtim=120 |
| CCPGEUPDT | 5fd  | 1533 |     |     | no5text/hm/CCpgeupdt            |
| ADP       | 87   | 135  | 8   |     | /etc/adp.af, /etc/adp.ab        |
| SIULARP3  | 584  | 1412 | 190 |     | /no5text/prc/siularp            |
| TMRMSRD1  |      |      |     |     | /no5text/tm/TMrmsrd1            |
| TMRMSSWR1 |      |      |     |     | /no5text/tm/TMrmsrd1            |
| PSM       | 303  | 771  | 11  |     | /prc/psm                        |
| PMCRMAN   | 2c9  | 713  |     |     | /prc/pmcman 0                   |
| RCFMSYS   | 576  | 1398 |     |     | /no5text/rcv/RCfmsys            |
| FSMON     | 8a   | 138  |     |     | /etc/fsmon                      |
| PTNMOUNT  |      |      |     |     | /etc/ptnmount                   |
| MNTUXABF  |      |      |     |     | /etc/mntuxabf                   |
| SMODD1    |      |      |     |     | /etc/smodd1                     |
| WELRMAIN  | 671  | 1649 |     |     | /no5text/prc/WElrmain           |
| WELSMAIN  | 672  | 1650 |     |     | /no5text/prc/WElrmain           |
| CPRS      | 472  | 1138 |     |     | /no5text/diag/dgnc/cprs         |
| SIOF      | 325  | 805  |     |     | /etc/siof                       |
| LGCNTL    | 740  | 1856 | 100 |     | /no5text/rcv/lgcntl             |
| LGDEC     | 10c  | 268  | 166 |     | /no5text/rcv/lgdec              |
| LGLOG     | 760  | 1888 | 102 |     | /no5text/rcv/lglog              |
| LGCRC     | 760  | 1888 |     |     | /no5text/rcv/lgcrc              |
| BKNTL     | 598  | 1432 |     |     | /no5text/rcv/bkcntl             |
| ODDGRW    | 701  | 1793 | 91  |     | /no5text/rcv/oddgrw             |
| UNXGRWPAR | 439  | 1081 | 190 |     | /no5text/rcv/unxgrwpar          |
| SIULARP4  | 584  | 1412 |     |     | /no5text/rcv/siularp            |
| DGpsup    | 470  | 1136 |     |     | /no5text/prc/DGpsup             |
| UPSETIND  | 6e2  | 1762 |     |     | /no5text/prc/UPsetind           |
| UTCP3B    | 4a8  | 1192 |     |     | /no5text/prc/utcp3b             |
| RCCP3B    | 5b4  | 1460 |     |     | /no5text/rcv/RCCp3bsec          |
| SMIIAU    | 5d1  | 1489 |     |     | /no5text/prc/SMiiAU             |
| ECAP      | 4b0  | 1200 |     |     | /no5text/as/ECap                |
| UPDATE    | 14   | 20   | 23  |     | /etl/update                     |
| ECR3      | 533  | 1331 |     |     | /no5text/as/ECr3                |
| ECR4      | 531  | 1329 |     |     | /no5text/as/ECr4                |
| ECR5      | 780  | 1920 |     |     | /no5text/as/ECr5                |
| ECR6      | 781  | 1921 |     |     | /no5text/as/ECr6                |
| ECW6      | 791  | 1937 |     |     | /no5text/as/ECw6                |
| ECW3      | 532  | 1330 |     |     | /no5text/as/ECw3                |
| ECW4      | 530  | 1328 |     |     | /no5text/as/ECw4                |
| ECW5      | 790  | 1936 |     |     | /no5text/as/ECw5                |
| SIRCBK    | 597  | 1431 |     |     | /no5text/prc/SIrcbk             |
| SIOFFN    | 578  | 1400 |     |     | /no5text/prc/Sloffn             |
| CTRD      | 7ee  | 2030 |     |     | /no5text/prc/CTrd               |
| UPRBT     |      |      |     |     | /no5text/prc/ucntl              |
| CTWR      | 7ef  | 2031 |     |     | /no5text/tm/CTwr                |
| RCCNTL    | 454  | 1108 | 118 |     | /no5text/rcv/rccntl             |

|            |     |      |     |  |                            |
|------------|-----|------|-----|--|----------------------------|
| UPPCTL     | 7ab | 1963 |     |  | /no5text/prc/UPpctl        |
| RCCP3BOFR  | 7ea | 2026 |     |  | /no5text/rcv/RCCp3bofr     |
| RCASRSYS   | 7e7 | 2023 |     |  | /no5text/rcv/RCasrsys      |
| SIULARP5   | 584 | 1412 | 190 |  | /no5text/prc/siularp       |
| AMMONOC    | 7df | 2015 | 96  |  | /no5text/prc/ammonc        |
| AMMONIC    | 7cc | 1996 | 114 |  | /no5text/prc/ammonic       |
| AMREX      | 7c3 | 1987 |     |  | /no5text/prc/amrex         |
| CRONAP     | 4bc | 1212 |     |  | /etc/cron.app              |
| MLWR       | 5fb | 1531 |     |  | /no5text/tm/MLwt           |
| MLRD       | 5fa | 1530 |     |  | /no5text/tm/MLrd           |
| ATTS       | 774 | 1908 |     |  | /no5text/tm/TMattsret      |
| INSTALL    |     |      |     |  | /etc/install               |
| LNDKDRV    |     |      |     |  | /bin/rm/bootfiles/dkdrv    |
| PANICDMP   |     |      |     |  | /bin/run -b /bin/recovdata |
| RCCNTL     |     |      |     |  | /no5text/rcv/RCC.cntl      |
| ADPAB      |     |      |     |  | /etc/adp.ab                |
| SDLRTC     |     |      |     |  | /etc/sdlrtc                |
| RCD daemon | 40d | 1037 |     |  | /prc/RCDdaemon             |
| ASCOTSYS   | 645 | 1605 |     |  | /no5text/as/AScotSYS       |
| SDLRTN     |     |      |     |  | /etc/sdlrtn                |
| TX         |     |      |     |  |                            |
| CIA        | 202 | 514  |     |  | /cft/dap/cia               |
| SIULARP6   | 584 | 1412 | 190 |  | /no5text/prc/siularp       |

## 1.7 IMS UNIX<sup>®</sup> RTR Operating System Processes

| PROCESS   | PRI | CREATOR | CRIT | DESCRIPTION          |
|-----------|-----|---------|------|----------------------|
| npp       |     | IMSDRV  | N    | Pumper               |
| tdcp      |     | IMSDRV  | N    | Trace reporter       |
| imsdiag   |     |         | N    | Diagnostic process   |
| imsrmvrst |     |         | N    | Remove/restore       |
| pri_genid |     | IMSDRV  | N    | Print release ID     |
| imsrts    |     | IMSDRV  | N    | IMS real time status |
| mtce/cfr  |     |         |      | CFR                  |
| alw.trace |     |         | N    | Trace command        |
| inh.trace |     |         | N    | Trace command        |
| op.trace  |     |         | N    | Trace command        |
| set.trace |     |         | N    | Trace command        |

| PROCESS   | UTID | UTID | PT | ATB | PATHNAME                         |
|-----------|------|------|----|-----|----------------------------------|
| npp       | 674  | 1252 |    |     | /no5text/ims/pump/npp.p          |
| tdcp      | 67f  | 1663 |    |     | /no5text/ims/proc/tdcp.p         |
| imsdiag   |      |      |    |     | /no5text/ims/diag/dgnc/imsdiag   |
| imsrmvrst |      |      |    |     | /no5text/ims/diag/dgnc/imsrmvrst |
| pri_genid | 6a1  | 1697 |    |     | /no5text/ims/proc/pri_genid.p    |
| imsrts    | 679  | 1657 |    |     | /no5text/ims/proc/imsrts.p       |
| mtce/cfr  |      |      |    |     |                                  |
| alw.trace | 67b  | 1659 |    |     |                                  |
| inh.trace | 67e  | 1662 |    |     |                                  |
| op.trace  | 67d  | 1661 |    |     |                                  |
| set.trace | 67c  | 1660 |    |     |                                  |

## 1.8 UNIX<sup>®</sup> RTR Operating System Craft Processes

| PROCESS  | PRI | CREATOR | CRIT | DESCRIPTION                                             |
|----------|-----|---------|------|---------------------------------------------------------|
| CDKCHK   |     | ULARP   |      |                                                         |
| CFTLNK   |     | ULARP   |      |                                                         |
| RTS      | 12  | ULARP   |      | UNIX <sup>®</sup> RTR operating system real time status |
| CIA      | 11  |         |      | Critical indicator administration                       |
| RMF      |     | ULARP   |      | Recovery message formatter                              |
| DAP      | 11  | ULARP   |      | Display administration process                          |
| POKER    | 11  |         |      | Control/display terminal reader                         |
| INIT     | 11  |         |      | HM                                                      |
| ST       | 11  |         |      | HM                                                      |
| CDGETTY  | 11  |         |      | Control display GETTY                                   |
| SHLGETTY | 11  |         |      | HM shell GETTY                                          |
| SPLGETTY |     |         |      |                                                         |
| CIAGETTY | 11  |         |      | HM CIA GETTY                                            |
| CSOP     | 10  | ULARP   |      | Coordination of spooler output                          |

|          |    |      |  |                        |
|----------|----|------|--|------------------------|
| SOP      | 10 | CSOP |  | Spooler output process |
| GETTY    |    |      |  | HM                     |
| PDSHLAPP |    |      |  | HM                     |
| ERRPORT  |    |      |  | Error reporter         |
| KPERRPT  |    |      |  |                        |
| SPERRPT  |    |      |  |                        |
| ACP      |    |      |  | Alarm control process  |
| PDFDUMP  |    |      |  | Page descriptor file   |
| PDSHLA   |    |      |  | PDS shell A parser     |
| KPERRPT  |    |      |  |                        |
| SPERRPT  |    |      |  |                        |
| ACP      |    |      |  |                        |
| PDFDUMP  |    |      |  |                        |
| PDSHLA   |    |      |  |                        |

| PROCESS  | UTID | UTID | PT | ATB | PATHNAME           |
|----------|------|------|----|-----|--------------------|
| CDKCHK   |      |      |    |     | /etc/cdfchk        |
| CFTLNK   |      |      |    |     | /cft/cftlnk        |
| RTS      | 206  | 518  |    |     | /cft/rt            |
| CIA      |      |      |    |     | /cft/dap/cia       |
| RMF      |      |      |    |     | /cft/misc/rmf      |
| DAP      | 203  | 515  | 9  |     | /cft/dap/dap       |
| POKER    | 204  | 516  |    |     | /cft/dap/poker     |
| INIT     |      |      |    |     |                    |
| ST       |      |      |    |     |                    |
| CDGETTY  | 20d  | 525  |    |     | /bin/ldgetty       |
| SHLGETTY | 207  | 519  |    |     | /bin/shlgetty      |
| SPLGETTY | 20f  | 527  |    |     |                    |
| CIAGETTY |      |      |    |     |                    |
| CSOP     | 209  | 521  |    |     | /cft/spl/csop      |
| SOP      | 20b  | 523  |    |     | /cft/spl/sop       |
| GETTY    |      |      |    |     | /bin/getty         |
| PDSHLAPP |      |      |    |     | /cft/bin/pdshl.app |
| ERRPORT  |      |      |    |     | /bin/errport       |

## 1.9 5ESS® Switch Craft Processes

| PROCESS  | PRI | CRETOR                        | CRIT | DESCRIPTION                       |
|----------|-----|-------------------------------|------|-----------------------------------|
| HMtopsip | 12  | CMON(1)                       |      | HM                                |
| cmon     |     | ULARP                         |      | Craft interface integrity monitor |
| HMmcc    | 11  | CMON(2)                       |      | HM MCC                            |
| HMcfsh   | 11  |                               |      | HM craft shell                    |
| HMcfsha  | 11  |                               |      | HM craft shell A                  |
| SMstout  | 11  | CMON(8)                       |      | Switch Mtce status output         |
| HMtime   | 10  | CMON(5)                       |      | HM timing                         |
| HMsip    | 9   | CMON(3)                       |      | HM spooler input process          |
| HMaln    | 9   | CMON(7)                       |      | HM alarm                          |
| HMmesgx  | 3   |                               |      | HM                                |
| HMpokex  | 3   |                               |      | HM                                |
| SMaprts  | 3   | CMON(6)                       |      | Switch Mtce Appl real time status |
| HMlogmap |     | CMON(4)                       |      | HM logfile mapping                |
| Slmon    |     | CMON(9)                       |      |                                   |
| HMimst   |     |                               |      | HM factory system SM testing      |
| HMiread  |     | UNIX® RTR<br>operating system |      | HM input database reader          |
| HMoread  |     | UNIX® RTR<br>operating system |      | HM output database reader         |
| HMibld   |     | UNIX® RTR<br>operating system |      | HM input database builder         |

| PROCESS  | UTID | UTID | PIT | ATB | PATHNAME             |
|----------|------|------|-----|-----|----------------------|
| HMtopsip |      |      |     |     | /no5text/hm/HMtopsip |
| cmon     | 555  | 1365 |     |     | /no5text/prc/cmon    |
| HMmcc    | 560  | 1376 | 61  |     | /no5text/hm/HMmcc    |
| HMcfsh   |      |      |     |     | /no5text/hm/         |
| HMcfsha  | 208  | 520  |     |     | /no5text/him/        |
| SMstout  | 730  | 1840 | 74  |     | /no5text/prc/SMstout |
| HMtime   | 6c3  | 1731 |     |     | /no5text/prc/HMtime  |

|          |     |      |    |  |                      |
|----------|-----|------|----|--|----------------------|
| HMsip    | 570 | 1392 |    |  | /no5text/hm/HMsip    |
| HMalm    | 540 | 1344 |    |  | /no5text/hm/HMalm    |
| HMmesgx  | 556 | 1366 |    |  | /no5text/hm/         |
| HMpokex  | 557 | 1367 |    |  | /no5text/hm/         |
| SMaprts  |     |      |    |  | /no5text/prc/SMaprts |
| HMlogmap | 541 | 1345 | 86 |  | /no5text/hm/HMlogmap |
| Slmon    | 6bf | 1727 |    |  | /no5text/prc/Simon   |
| HMimst   |     |      | 83 |  |                      |
| HMread   |     | 1728 |    |  |                      |
| HMiread  | 6c2 | 1730 |    |  |                      |
| HMoread  |     |      |    |  |                      |
| HMibld   | 6c1 | 1729 |    |  |                      |

### 1.10 CNI/IMS Node Processor (NP) Processes

| PROCESS      | PRI | APPL | DESCRIPTION             |
|--------------|-----|------|-------------------------|
| im_etmd      | 1   | IMS  | Event timing process    |
| mtc_init     | 2   | IMS  | IMS maintenance process |
| ill_msg      | 3   | IMS  | Illegal message process |
| imnpimsclock | 4   | IMS  | IMS clock process       |
| medc         | 5   | IMS  | Measurement process     |
| tr_itup      | 6   | IMS  | Trace process           |
| tr_ittp      | 7   | IMS  | Trace process           |
| usrinit      | 8   | CNI  | Initialization process  |
| cBnhdlr      | 9   | CNI  | Start up LI             |
| cLstart      | 10  | CNI  | Link management         |
| cmsdc        | 11  | CNI  | Measurement process     |
| smh7_ret     | 12  | CNI  | Open channels data      |
| rMentry      | 13  | CNI  | Copies of remote data   |
| cnidum       | 14  | CNI  | Place holder            |
| monitor      | 15  | CNI  | Buffer dump             |
| cm_lbtmr     | 16  | CNI  |                         |
| rprdinit     | 17  | IMS  |                         |
| npaud_cs     | 18  | IMS  | Checksum audit process  |
| idle         | 19  | IMS  | Idle process            |

### 1.11 Direct Link Node (DLN) Attached Process (AP) Processes

| PROCESS | PRI | APPL | DESCRIPTION           |
|---------|-----|------|-----------------------|
| rMentry | 5   | CNI  | REMACS DLN code       |
| approut | 4   | CNI  | APPL routing          |
| dlncong | 6   | CNI  | DLN congestion handle |
| monitor | 3   | CNI  | Open monitor channel  |
| nothing | 0   | CNI  | Idle process          |

### 1.12 Shared Libraries Used by the 5ESS<sup>®</sup> Switch

| SHARED LIBRARY           | AIM | SMKP | MSKP | OKP | RCKP | CMKP |
|--------------------------|-----|------|------|-----|------|------|
| /lib                     | X   | X    | X    |     |      |      |
| /kconfig                 | X   |      | X    |     |      |      |
| /no5text/prc/Slib        | X   | X    | X    | X   | X    | X    |
| /no5text/prc/DBprims.out | X   | X    | X    |     |      |      |
| /no5text/prc/dddata.out  | X   | X    | X    | X   | X    |      |
| /no5text/prc/wpdata.out  | X   | X    | X    | X   | X    |      |
| /no5text/prc/DBpgbuf.out |     |      |      | X   |      |      |
| /no5text/prc/SMdyndata   |     | X    | X    |     |      |      |
| /no5text/prc/SMmsokp_q0  |     | X    | X    | X   |      |      |
| /no5text/prc/SMmsokp_q1  |     | X    | X    | X   |      |      |
| /no5text/prc/SMfpshdata  |     | X    | X    |     |      |      |
| /no5text/prc/CCdlng0     | X   |      | X    |     |      |      |
| /no5text/prc/CCdlng1     | X   |      | X    |     |      |      |
| /no5text/prc/CCdlnglib   | X   |      |      |     |      |      |
| /no5text/prc/RC_OKPlib   |     |      |      | X   | X    |      |
| /no5text/prc/imshare.p   | X   |      |      | X   |      |      |
| /no5text/prc/mscntl.p    |     |      |      | X   |      |      |
| /no5text/prc/CNISHRLIB   | X   |      |      | X   |      |      |
| /no5text/prc/CClib       | X   |      |      |     |      |      |

### 1.13 Shared Memory Used by the 5ESS® Switch

| SHARED MEMORY           | AIM | SMKP | MSKP | OKP | RCKP |
|-------------------------|-----|------|------|-----|------|
| ecd                     | rw  |      | ro   |     |      |
| pas                     | rw  |      | ro   | rw  |      |
| ama/AMlink/AMdwdataoc.o |     |      |      | X   |      |
| ama/AMdata/AMsds1.o     |     |      |      | X   |      |
| /CNIPASRTG.tv           |     |      |      | X   |      |
| db/DBrclog/DBlogsgu.o   |     |      |      | X   |      |
| db/DBrclog/DBrfwsgu.o   |     |      |      | X   |      |
| /tm/TMuxtera/TMshseg.o  |     |      |      | X   |      |
| /as/ASlink/ASmmscrs.o   |     |      |      | X   |      |
| /as/ASlink/ASmmrecbf.o  |     |      |      | X   |      |
| /as/ASlink/ADshrseq.o   |     |      |      | X   |      |

**APP:BBOOT-PRM**

Software Release: 5E10 and later

**1. BBOOT PRM HEXADECIMAL CODES AND DESCRIPTIONS**

|                                                                                                          |                                                      |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Used in calls to the fileloc function to locate the associated files on disk.                            |                                                      |
| 0x10:                                                                                                    | Patchcount file                                      |
| 0x50:                                                                                                    | appdmert or dmert bootfile                           |
| 0x90:                                                                                                    | Boottime equipment configuration database (ECD) file |
| 0xD0:                                                                                                    | Other boottime database                              |
| Used in fileloc function to load the first block of i-lists associated with file into the MAS locations. |                                                      |
| 0x20:                                                                                                    | Patchcount first inode                               |
| 0x60:                                                                                                    | Bootfile first inode                                 |
| 0xA0:                                                                                                    | ECD first inode                                      |
| 0xE0:                                                                                                    | Other first inode                                    |
| Used in fileloc to load a block of the directory associated with file into the MAS locations.            |                                                      |
| 0x30:                                                                                                    | Patchcount load directory                            |
| 0x70:                                                                                                    | Bootfile load directory                              |
| 0xB0:                                                                                                    | ECD load directory                                   |
| 0xF0:                                                                                                    | Other load directory                                 |
| Used in fileloc to load a block of i-lists associated with file into the MAS locations.                  |                                                      |
| 0x40:                                                                                                    | Patchcount inode                                     |
| 0x80:                                                                                                    | Bootfile inode                                       |
| 0xC0:                                                                                                    | ECD inode                                            |
| 0x01:                                                                                                    | Other inode                                          |
| 0x02:                                                                                                    | Read a block of ECDORG 1st level of indirection      |
| 0x03:                                                                                                    | Read a block of ECDORG 2nd level of indirection      |
| 0x04:                                                                                                    | Read a block of BTPARM 1st level of indirection      |
| 0x05:                                                                                                    | Read a block of BTPARM 2nd level of indirection      |
| 0x06:                                                                                                    | Used by sgen() call to delay()                       |
| 0x07:                                                                                                    | Used by loaddb() call to doquejob()                  |
| 0x08:                                                                                                    | Used by writedisk() call to doquejob()               |
| 0x00:                                                                                                    | default value                                        |

**APP:BIC-STAT**

Software Release: 5E10 and later

**1. BIC STATUS LAYOUT**

| <b>BIT</b> | <b>DESCRIPTION</b>                                   |
|------------|------------------------------------------------------|
| 00         | Device address                                       |
| 01         | Device address                                       |
| 02         | Device address                                       |
| 03         | Device address                                       |
| 04         | DMA setup overwrite                                  |
| 05         | Peripheral bus interface (PBI) parity error - byte 0 |
| 06         | PBI parity error - byte 1                            |
| 07         | PBI parity error - byte 2                            |
| 08         | PBI parity error - byte 3                            |
| 09         | End of Data (EOD) error                              |
| 10         | PIC fatal error summary                              |
| 11         | PIC sanity error                                     |
| 12         | PIC data bus parity error - low byte                 |
| 13         | PIC data bus parity error - high byte                |
| 14         | Data FIFO overflow/underflow                         |
| 15         | Command register overflow                            |
| 16         | FIFO word count                                      |
| 17         | FIFO word count                                      |
| 18         | FIFO word count                                      |
| 19         | FIFO word count                                      |
| 20         | FIFO word count                                      |
| 21         | Interrupt                                            |
| 22         | Transfer                                             |
| 23         | Setup                                                |
| 24         | EOD expected                                         |
| 25         | EOD received                                         |
| 26         | Transfer mode (0=word, 1=block)                      |
| 27         | Enable PIC data bus parity check                     |
| 28         | Interface enabled                                    |
| 29         | Data flag (0=3B, 1=PIC)                              |
| 30         | Command in progress                                  |
| 31         | Command present flag                                 |



**APP:CNIINIT-TBL**

Software Release: 5E10 and later

**1. CNIINIT TABLES****Table 1 CNIINIT Child Process Creation**

| VALUE OF CHILD_NUM, I, OR PRDEX | PROCESS NAME |
|---------------------------------|--------------|
| 0                               | N A          |
| 1                               | CMMSADM      |
| 2                               | N A          |
| 3                               | imsdrv.p     |
| 4                               | SLMK         |
| 5                               | CNIER        |
| 6                               | CNISNM       |
| 7                               | CMMSDP       |
| 8                               | MON TRAP     |
| 9                               | OMAP         |
| 10                              | cdp          |
| 11                              | RGP_PRT      |

**Table 2 CNIINIT Default Audit**

| VALUE OF AUDEX | FAMILY NAME | MEMBER NUMBER | INSTANCE NAME |
|----------------|-------------|---------------|---------------|
| 0              | N A         | N A           | N A           |
| 1              | NIDATA      | NIDATA        | NIDATA        |

**Table 3 SLMK Error Codes**

| CODE | NAME       | DESCRIPTION OF ERROR CODE (FILE AND FUNCTION)                                                                                                                                                                                                                                                                                                          |
|------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x00 | None       | Unused                                                                                                                                                                                                                                                                                                                                                 |
| 0x01 | None       | Unused                                                                                                                                                                                                                                                                                                                                                 |
| 0x02 | None       | Unused                                                                                                                                                                                                                                                                                                                                                 |
| 0x03 | None       | Unused                                                                                                                                                                                                                                                                                                                                                 |
| 0x04 | CS14PID    | Cannot get process identification (PID) of the process attached to port PT_UIMS (CNIINIT process). SLMK was attempting to get the PID to call the cltraf function. SLMK will terminate.<br><br>(sys/slmk/init/init.c, cState14)                                                                                                                        |
| 0x05 | CS14TRAF   | Bad return from call to give CNIINIT the initialization complete indication (cltraf). The PID for CNIINIT was obtained from port PT_UIMS, the return code from that process (expected to be CNIINIT) was given in an ERRLOG output which should appear on the receive-only printer (ROP). SLMK will terminate.<br><br>(sys/slmk/init/init.c, cState14) |
| 0x06 | CSSTOPPID  | Cannot get PID of the process attached to port PT_UIMS (CNIINIT process). SLMK was attempting to get the PID to call the clstop function. SLMK will terminate.<br><br>(sys/slmk/init/init.c, cStopack)                                                                                                                                                 |
| 0x07 | CSSTOPFAIL | Bad return from call to give CNIINIT the channels closed indication (clstop). The PID for CNIINIT was obtained from port PT_UIMS, the return code from that process (expected to be CNIINIT) was given in an ERRLOG output which should appear on the ROP. SLMK will terminate.<br><br>(sys/slmk/init/init.c, cStopack)                                |
| 0x08 | CS16PID    | Cannot get PID of the process attached to port PT_UIMS (CNIINIT process). SLMK was attempting to get the PID to call the clstart function. SLMK will terminate.<br><br>(sys/slmk/init/init.c, cState16)                                                                                                                                                |
| 0x09 | CS16START  | Bad return from call to give CNIINIT the channels open indication (clstop). The                                                                                                                                                                                                                                                                        |

|      |             |                                                                                                                                                                                                                                                                                                                                                                                                                |
|------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |             | <p>PID for CNIINIT was obtained from port PT_UIMS, the return code from that process (expected to be CNIINIT) was given in an ERRLOG output which should appear on the ROP. SLMK will terminate.</p> <p>(sys/slmk/init/init.c, cState16)</p>                                                                                                                                                                   |
| 0x0a | CSFPIFAIL   | <p>Bad return from call to request a full process initialization (FPI) from CNIINIT (clfpi). The PID for CNIINIT was obtained from port PT_UIMS, the return code from that process (expected to be CNIINIT) was given in an ERRLOG output which should appear on the ROP. SLMK will terminate.</p> <p>(sys/slmk/init/init.c, cSabort)</p>                                                                      |
| 0x0b | CSFAILFAIL  | <p>Bad return from call to inform CNIINIT of failure (clfail). The PID for CNIINIT was obtained from port PT_UIMS, the return code from that process (expected to be CNIINIT) was given in an ERRLOG output which should appear on the ROP. SLMK will terminate.</p> <p>(sys/slmk/init/init.c, cSabort)</p>                                                                                                    |
| 0x0c | CS1N18PORT  | <p>Cannot connect to port (PT_SLMK). SLMK will terminate.</p> <p>(sys/slmk/init/init.c, cScom1and18)</p>                                                                                                                                                                                                                                                                                                       |
| 0x0d | CS1N18PAS   | <p>CNI software release 3.2 only. SLMK cannot setup appropriate memory permissions to the protected application segment (PAS). CNI stores office dependent data in PAS. This data is accessed by the SLMK process. SLMK needs read and write permissions. SLMK could not get this permission from the operating system; therefore, it is requesting an FPI.</p> <p>(sys/slmk/init/init.c, cScom1and18)</p>     |
| 0x0d | CSWP OFFPAS | <p>CNI software release 4.2 and beyond. SLMK could not turn off write permissions to the static CNI office dependent data stored in the PAS. For this failure, SLMK will request an FPI.</p> <p>(sys/slmk/pas/paswp.c, cSwpoffspas)</p>                                                                                                                                                                        |
| 0x0e | CS1N18PID   | <p>Cannot get PID of the process attached to port PT_UIMS (CNIINIT process). SLMK was attempting to get the PID to call the clalive function. SLMK will terminate.</p> <p>(sys/slmk/init/init.c, cScom1and18)</p>                                                                                                                                                                                              |
| 0x0f | CS1N18OST   | <p>Bad return from call to clalive function. This function informs the CNIINIT process SLMK has been successfully created, then initialization is proceeding. The PID for CNIINIT was obtained from port PT_UIMS, the return code from that process (expected to be CNIINIT) was given in an ERRLOG output which should appear on the ROP. SLMK will terminate.</p> <p>(sys/slmk/init/init.c, cScom1and18)</p> |
| 0x10 | CS3N9PID    | <p>Cannot get PID of the process attached to port PT_UIMS (CNIINIT process). SLMK was attempting to get the PID to call the clstart function. SLMK will terminate.</p> <p>(sys/slmk/init/init.c, cScom3and9)</p>                                                                                                                                                                                               |
| 0x11 | CS3N9START  | <p>Bad return from call to give CNIINIT the channels open indication (clstart). The PID for CNIINIT was obtained from port PT_UIMS, the return code from that process (expected to be CNIINIT) was given in an ERRLOG output which should appear on the ROP. SLMK will terminate.</p> <p>(sys/slmk/init/init.c, cScom3and9)</p>                                                                                |
| 0x12 | CSAPPOPEN   | <p>This fail code is reserved for CNI users that place IMS channel open calls into the SLMK process. It is their option to either cause the SLMK process to terminate or restart.</p>                                                                                                                                                                                                                          |

|      |                 |                                                                                                                                                                                                                                                     |
|------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                 | (sys/slmk/disp/app_open.c, app_open)                                                                                                                                                                                                                |
| 0x13 | CSAPPIOCTL      | This fail code is reserved for CNI users that place IMS I/O control calls in the SLMK process. It is their option to either cause SLMK to terminate or restart.                                                                                     |
|      |                 | (sys/slmk/disp/app_open.c, app_open)                                                                                                                                                                                                                |
| 0x14 | CSIMSEVENT      | SLMK was unable to send an event to the imsdv.p process. This ability is required when the channel open request, for SLM3BCHN, returns "retry". For this fault, SLMK will request an FPI.                                                           |
|      |                 | (sys/slmk/disp/imsmsg.c, cSimsopen)                                                                                                                                                                                                                 |
| 0x15 | CSIMSOPEN       | SLMK was unable to open channel SLM3BCHN. Multiple attempts are made before declaring this failure. For this failure, SLMK will request an FPI.                                                                                                     |
|      |                 | (sys/slmk/disp/imsmsg.c, cSimsopen)                                                                                                                                                                                                                 |
| 0x16 | CSIMSICTL       | SLMK was unable to I/O control the SLM3BCHN. This failure will cause SLMK to request an FPI.                                                                                                                                                        |
|      |                 | (sys/slmk/disp/imsmsg.c, cSimsopen)                                                                                                                                                                                                                 |
| 0x17 | CSABORTEVT      | SLMK received the ABORT event. The process will terminate.                                                                                                                                                                                          |
|      |                 | (sys/slmk/disp/main.c, kevent)                                                                                                                                                                                                                      |
| 0x18 | CSDBLFLT        | SLMK was processing a fault when another fault occurred. SLMK will terminate for this occurrence.                                                                                                                                                   |
|      |                 | (sys/slmk/disp/main.c, kfault)                                                                                                                                                                                                                      |
| 0x19 | CSFLTSINIT      | SLMK is requesting a restart because a fault FLT_SINIT occurred while the process was in an unstable state. The process was either caught in a critical section when the fault occurred, or the process had not yet completed its initialization.   |
|      |                 | (sys/slmk/disp/main.c, kfault)                                                                                                                                                                                                                      |
| 0x1a | CSMYFAULT       | SLMK is requesting an FPI because a fault occurred while the process was in execution.                                                                                                                                                              |
|      |                 | (sys/slmk/disp/main.c, kfault)                                                                                                                                                                                                                      |
| 0x1b | None            | Unused                                                                                                                                                                                                                                              |
| 0x1c | CSNMNORSTTMR    | Cannot allocate a timer for the route-set-test or cluster route-set-test. SLMK will restart because without a timer, the RST/CRST will not run and CNI's view of the signaling network may become corrupt. SLMK will request an FPI for this error. |
|      |                 | (nm/srm7/dom/3b/cR7rs tst.c, cR7can_rst)                                                                                                                                                                                                            |
| 0x1d | CSLNCEVENT      | SLMK was unable to send an event to the imsdv.p process. This ability is required when the channel open request, for NDE_ERR, returns "retry". For this fault, SLMK will request an FPI.                                                            |
|      |                 | (lnc/comctl/3b/cLnoderr.c, cLne_open)                                                                                                                                                                                                               |
| 0x1e | CSLNCOPEN       | SLMK was unable to open channel NDE_ERR. Multiple attempts are made before declaring this failure. For this failure, SLMK will request a FPI.                                                                                                       |
|      |                 | (lnc/comctl/3b/cLnoderr.c, cLne_open)                                                                                                                                                                                                               |
| 0x1f | CSLNCIOCTL      | SLMK was unable to I/O control the NDE_ERR. This failure will cause SLMK to request an FPI.                                                                                                                                                         |
|      |                 | (lnc/comctl/3b/cLnoderr.c, cLne_open)                                                                                                                                                                                                               |
| 0x20 | CSLNC67NOTMR    | SLMK was unable to get a timer to continue CCS6/ CCS7/ INTL link initialization. This failure will cause SLMK to request an FPI.                                                                                                                    |
|      |                 | (lnc/comctl/3b/ccs67init.c, cLccslinit)                                                                                                                                                                                                             |
| 0x21 | CSLNCALLPMPFAIL | The remacs subsystem within SLMK returned FAIL for the all node pump request                                                                                                                                                                        |

|      |                  |                                                                                                                                                                                                                                                                                                                    |
|------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                  | during an initialization. This failure will cause SLMK to request an FPI.<br><br>(lnc/comctl/3b/nodestate.c, cLremdone)                                                                                                                                                                                            |
| 0x22 | CSLNCALLPMPFUNDY | The remacs subsystem within SLMK returned an unknown completion code for the all node pump request during an initialization. This failure will cause SLMK to request an FPI.<br><br>(lnc/comctl/3b/nodestate.c, cLremdone)                                                                                         |
| 0x23 | CSIOERROR        | A failure occurred in the code that performs the disk I/O during initialization. There are numerous reasons why this error may have occurred. The specifics will be reported by an ERRLOG which should appear on the ROP. This failure will cause SLMK to request an FPI.<br><br>(sys/slmk/kdisk/start.c, cSioerr) |
| 0x24 | CSIOACKERR       | A disk I/O failure was encountered while reading CNI's office dependent data. The specifics will be reported by an ERRLOG output which should appear on the ROP. This failure will cause SLMK to terminate.<br><br>(sys/slmk/kdisk/diskio.c, cSioack)                                                              |
| 0x25 | CSTESTRESTART    | This code is featured CNITST. Thus, it should never be seen outside the development environment. When in the development environment, this code means SLMK has received a test message using the UNIX(r) RTR Operating System and is requesting an FPI.<br><br>(sys/slmk/init/cSfpitst.c, cSfpitst)                |
| 0x26 | CSTESTDIE        | This code is featured CNITST. Thus, it should never be seen outside the development environment. When in the development environment, this code means SLMK has received a test message instructing it to terminate.<br><br>(sys/slmk/init/cSfpitst.c, cSfpitst)                                                    |
| 0x27 | CSTESTFAIL       | This code is featured CNITST. Thus, it should never be seen outside the development environment. When in the development environment, this code means SLMK has received a test message instructing it to exercise the fail interface with CNIINIT.<br><br>(sys/slmk/init/cSfpitst.c, cSfpitst)                     |
| 0x28 | CSWPONPAS        | A failure occurred while trying to turn both read and write permissions on to the part of PAS that contains the static portion of CNI's office dependent data. For this failure, SLMK will request an FPI.<br><br>(sys/slmk/pas/paswp.c, cSwpaspas)                                                                |
| 0x29 | CSDYNPAS         | A failure occurred while trying to turn both read and write permissions on to the part of PAS that contains the dynamic portion of CNI's office dependent data. For this failure, SLMK will request an FPI.<br><br>(sys/slmk/pas/paswp.c, cS_dynpas)                                                               |
| 0x2a | CSTMRAUD         | A LOOP was detected in timer queue. This failure will cause SLMK to request a FPI.<br><br>(sys/slmk/timers/com/timers.c, cSaudtmr)                                                                                                                                                                                 |
| 0x2b | CSTMHDL1         | A loop was detected in timer list when SLMK was handling expired timers in cStimhdlr(). This failure will cause SLMK to request a FPI.<br><br>(sys/slmk/timers/com/timers.c, cStimhdlr)                                                                                                                            |
| 0x2c | CSTMHDL2         | Time value passed to RTR function ptimer() was not in valid range. This failure will cause SLMK to request a FPI.<br><br>(sys/slmk/timers/com/timers.c, cStimhdlr)                                                                                                                                                 |
| 0x2d | CSTMHDL3         | Timer handler (cStimhdlr) found no timers when scanning timing list (list empty).                                                                                                                                                                                                                                  |

|      |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |          | This failure will cause SLMK to request a FPI.<br><br>(sys/slmk/timers/com/timers.c, cStimhdr)                                                                                                                                                                                                                                                                                                                                                                            |
| 0x2e | CSTMCNIT | A loop was detected in timer list. This occurred when SLMK was attempting to cancel a timer using canit(). This failure will cause SLMK to request a FPI.<br><br>(sys/slmk/timers/com/timers.c, canit)                                                                                                                                                                                                                                                                    |
| 0x2f | CSTMPOLL | A loop was detected in timer list. This occurred when SLMK was attempting to add a timer to the timing list using putonll(). This failure will cause SLMK to request a FPI.<br><br>(sys/slmk/timers/com/timers.c, putonll)                                                                                                                                                                                                                                                |
| 0x30 | CSTMREQ1 | When trying to add a new entry to the timing list, timereq() found no more timers available. This failure will cause SLMK to request a FPI.<br><br>(sys/slmk/timers/com/timers.c, timereq)                                                                                                                                                                                                                                                                                |
| 0x31 | CSTMREQ2 | RTR function ptimer() failed when attempting to set a timeout value for the process. This failure will cause SLMK to request a FPI.<br><br>(sys/slmk/timers/com/timers.c, timereq)                                                                                                                                                                                                                                                                                        |
| 0x32 | CSCHNTO  | This error can occur for several reasons.<br><br><ol style="list-style-type: none"> <li>(1) The call to _3B_GRDQCNT to calculate number of messages on a channel failed.</li> <li>(2) The call to sendevent() was not successful.</li> <li>(3) The call to enable_ev() was not successful. The first type of failure will cause SLMK to request a FPI and the last two will cause SLMK to terminate.</li> </ol><br>(sys/slmk/audits/imschnaud.c, audchans or cSimschnaud) |
| 0x33 | CSOSTPID | cSgetostpid() was unable to get a process identification number (PID) for the requested port. This failure will cause SLMK to request a FPI.<br><br>(sys/slmk/init/init.c, cSgetostpid)                                                                                                                                                                                                                                                                                   |
| 0x34 | CSCRITDF | Escalation in CNI critical node monitor (CNR MON) due to repeated failures on DLNs. SLMK will terminate.<br><br>(lnc/comctl/3b/critnode.c, cLcritck)                                                                                                                                                                                                                                                                                                                      |
| 0x35 | CSCRITLF | Escalation in CNI CNR MON due to repeated failures on LNs. SLMK will terminate.<br><br>(lnc/comctl/3b/critnode.c, cLcritck)                                                                                                                                                                                                                                                                                                                                               |
| 0x36 | CSCRITRF | The number of CNI CNR failures has exceeded the maximum number allowed within a 30 second guard interval. CNR will escalate to an initialization. SLMK will terminate.<br><br>(lnc/comctl/3b/critnode.c, cLcritck)                                                                                                                                                                                                                                                        |
| 0x37 | CSOLBPID | Cannot get PID of the imsdrv.p process. SLMK was attempting to get the PID to call the ost2imsdrv function. SLMK will terminate.<br><br>(lnc/olb/3b/olb.c, cLolb_prime)                                                                                                                                                                                                                                                                                                   |
| 0x38 | CSOLBOST | A failure occurred when SLMK was trying to trap the IMS driver (imsdrv.p) to obtain ring node ranges. This is related to offline boot. The error occurred during cLolb_prime which is used to initialize data dstruct containing the start and end node numbers for a split ring. SLMK will terminate.                                                                                                                                                                    |

|      |              |                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |              | (Inc/olb/3b/olb.c, cLolb_prime)                                                                                                                                                                                                                                                                                                                                                                                  |
| 0x39 | CSOLBTMR     | SLMK cannot get a timer for offline boot (call to cS1shotmr failed). Occurred during olb_remove which slowly removes signaling links from service on the offline side. Links are removed every 5ms and this is the timer for that. This failure will cause SLMK to request a FPI.                                                                                                                                |
|      |              | (Inc/olb/3b/olb.c, olb_remove)                                                                                                                                                                                                                                                                                                                                                                                   |
| 0x3a | CSOLBSYSTMR  | SLMK cannot get a timer for offline boot (call to cS1shotmr failed). Occurred during cSolb_abort which controls the number of offline boot aborts that can be issued. This failure will cause SLMK to request a FPI.                                                                                                                                                                                             |
|      |              | (sys/slmk/olb/olb.c, cSolb_abort)                                                                                                                                                                                                                                                                                                                                                                                |
| 0x3b | CSOLBSNDEVT  | The call to sendevent() failed, so the event to issue OFLBOOT abort could not be sent. This failure will cause SLMK to request a FPI.                                                                                                                                                                                                                                                                            |
|      |              | (sys/slmk/olb/olb.c, cSolb_abort)                                                                                                                                                                                                                                                                                                                                                                                |
| 0x3c | CSOLBSIPO    | Cannot send status indication processor outage (SIPO) messages with indication of OLB as reason. Error during cLcpcoff function, a LNC function which marks OLB as reason for sending SIPOs and removes links from service. SLMK will terminate.                                                                                                                                                                 |
|      |              | (Inc/olb/3b/olb.c, cLcpcoff)                                                                                                                                                                                                                                                                                                                                                                                     |
| 0x3d | CSOLBCLRSIPO | Tried to clear OLB reason from SIPO control field, but cannot remove SIPOs (call to cLclr_sipo failed). SLMK will terminate.                                                                                                                                                                                                                                                                                     |
|      |              | (Inc/olb/3b/olb.c, cLcpon)                                                                                                                                                                                                                                                                                                                                                                                       |
| 0x3e | CSSIGCAPUNAV | Done after check for SLMK UP (initialization complete). Do not have at least one available link and no nodes are restored. SLMK will terminate.                                                                                                                                                                                                                                                                  |
|      |              | (Inc/comctl/3b/nodestate.c, cLmass_state_notify)                                                                                                                                                                                                                                                                                                                                                                 |
| 0xff | CSUNKNOWN    | Bad parameters passed to the SLMK state driver, cSabort routine entered with one or two problems. First, the event passed was not CSABORT. This is a table bug and should be referred to CNI development. Second, again a software problem, the reason for code aborting is greater than 0xff. All error codes should be in the range of zero through 0xff. The SLMK process will terminate due to this problem. |
|      |              | (sys/slmk/init/init.c, cSabort)                                                                                                                                                                                                                                                                                                                                                                                  |

**Table 4 Process Manager Error Returns**

| <b>LABEL</b> | <b>VALUE IN X</b> | <b>DESCRIPTION OF RETURNS</b>                     |
|--------------|-------------------|---------------------------------------------------|
| MSTYPERR     | 33                | Message type not recognized.                      |
| MSNOLFILE    | 35                | Library file does not exist.                      |
| MSNOSLOT     | 36                | All process slots in use (pstart fail).           |
| MSNOMEM      | 37                | Insufficient memory for kernel process.           |
| MSNOSWAP     | 38                | Either all sides allocated or no swap space left. |
| MSREADERR    | 39                | Unable to read a pfile or a library file.         |
| MSTOOBIG     | 3A                | Segment is too big for address space.             |
| MSNOSHARE    | 3B                | Cannot add shared segment to process.             |
| MSTOOMANY    | 3C                | Incarnation count is too big for one process.     |
| MSNOPCB      | 3E                | Cannot acquire PCB of terminating process.        |
| MSFAULTED    | 3F                | PMGR faulted, entered fault routine.              |
| MSNUBFALT    | 40                | NUB faulted, entered fault routine.               |
| MSCOPYERR    | 43                | Bad ACK resulting from copyseg OST.               |
| MSNOPFILE    | 44                | pfile (LDP output) does not exist.                |
| MSNODFILE    | 46                | Cannot open dump file.                            |
| MSWRTERR     | 47                | Unable to write out a dump segment.               |
| MSNOCAP      | 48                | Cannot get capability of working directory.       |
| MSCLSERR     | 49                | Unable to close a file.                           |
| MSFROMERR    | 4C                | Message from unauthorized process.                |
| MSCNFSEG     | 4D                | Created process has segment index overlay.        |
| MSLIBERR     | 4E                | Unable to lock shared library in memory.          |

|           |    |                                                                      |
|-----------|----|----------------------------------------------------------------------|
| MSALREADY | 4F | Shared library already locked in memory.                             |
| MSTERMDLY | 50 | The term. has already taken place (by proad).                        |
| MSNOPAS   | 51 | pfile calls for PAS, no PAS in system.                               |
| MSNOFORK  | 52 | The fork request failed pcreate - super.                             |
| MSEDLM    | 53 | Cannot create because in disk independent operation (DIOP).          |
| MSMODULE  | 54 | segid and index do not specify the same module.                      |
| MSPCBNDX  | 55 | Bad pcb index - when EMM index must be less than partition boundary. |
| MSNOKPCB  | 56 | pfile does not specify pcb segment.                                  |
| MSLOST    | 57 | An ack message was lost or delayed                                   |

**APP:DEV-TYPE**

Software Release: 5E10 and later

**1. DEVICE TYPE DEFINITIONS**

| Type  | Device                                        |
|-------|-----------------------------------------------|
| X'000 | No unit                                       |
| X'001 | Peripheral interface controller (PIC)         |
| X'002 | TTY controller (TTYC)                         |
| X'003 | TTY unit (TTY)                                |
| X'004 | Magnetic tape controller (MTC)                |
| X'005 | Magnetic tape unit (MT)                       |
| X'006 | Scanner signal distributor controller (SCSDC) |
| X'007 | Synchronous data link controller (SDLC)       |
| X'008 | Synchronous data link unit (SDL)              |
| X'009 | Maintenance TTY controller (MTTYC)            |
| X'00A | Maintenance TTY (MCC)                         |
| X'00B | Receive-only printer (ROP)                    |
| X'00C | Switching control center interface (SCC)      |
| X'00D | Emergency action interface (EAI)              |
| X'00E | Foundation peripheral controller (FPC)        |
| X'00F | Foundation peripheral unit (FP)               |
| X'010 | Unused                                        |
| X'011 | Unused                                        |
| X'012 | Direct user interface controller (DUIC)       |
| X'013 | Direct user interface unit (DUI)              |



**APP:DISK-PART**

Software Release: 5E10 and later

**1. DISK PARTITIONS**

| PARTITION NAME  | DEVICE        | MOUNTER  | TYPE       |
|-----------------|---------------|----------|------------|
| /database       | /dev/db       | PMKP     | Read Only  |
| /database       | /dev/db       | PTNMOUNT | Read/Write |
| /no5text        | /dev/no5text  | PMKP     | Read Only  |
| /no5text        | /dev/no5text  | PTNMOUNT | Read/Write |
| /no5odd/cpdata  | /dev/no5aodd1 | PMKP     | Read Only  |
| /dg             | /dev/dg       | AIM      | Read Only  |
| /dq             | /dev/dq       | PTNMOUNT | Read/Write |
| /cdmp           | /dev/cdmp     | PTNMOUNT | Read/Write |
| /no5odd/cidata  | /dev/no5codd1 | PTNMOUNT | Read/Write |
| /no5text/im     | /dev/smtext   | PTNMOUNT | Read/Write |
| /rclog          | /dev/rclog    | PTNMOUNT | Read/Write |
| /usr/tmp        | /dev/usrtmp   | PTNMOUNT | Read/Write |
| /smlog          | /dev/smlog    | PTNMOUNT | Read/Write |
| /updtmp         | /dev/updtmp   | PTNMOUNT | Read/Write |
| /etc/bwm        | /dev/bwm      | PTNMOUNT | Read/Write |
| /log            | /dev/log      | MNTUXABF | Read/Write |
| /unixa          | /dev/unixa    | MNTUXABF | Read/Write |
| /unixa/users    | /dev/unixabf  |          |            |
| /no5odd/cpdata  | /dev/no5aodd1 |          |            |
| /no5odd/imdata1 | /dev/no5sodd1 |          |            |
| /tmp            | /dev/tmp      |          |            |
| /unixb          | /dev/unixb    |          |            |
| /etc            |               |          |            |
| /               | /dev/ROOT     |          |            |

**APP:DSCH-STAT**

Software Release: 5E10 and later

**1. DSCH STATUS LAYOUT**

| Bit | Description                            |
|-----|----------------------------------------|
| 00  | Low return code *                      |
| 01  | Low return code * high three bits      |
| 02  | Low return code *                      |
| 03  | High return code *                     |
| 04  | High return code * high three bits     |
| 05  | High return code *                     |
| 06  | Channel busy f-f                       |
| 07  | I/O inhibit override f-f               |
| 08  | Sequencer error                        |
| 09  | Illegal 3-out-of-6 device address      |
| 10  | Command error                          |
| 11  | Channel error (or of previous command) |
| 12  | Maintenance f-f                        |

**APP:EIH-FUNC**

Software Release: 5E10 and later

**1. EIH FUNCTION NUMBERS**

| Function Number | Function Name  | Source File |
|-----------------|----------------|-------------|
| 01              | attach         | attach.c    |
| 02              | chanerr        | chanerr.c   |
| 03              | cr_dmaer       | cr_dmaer.c  |
| 04              | disable        | disable.c   |
| 05              | dmadata        | dmadata.c   |
| 06              | dmafatal       | dmafatal.c  |
| 07              | dmanfatal      | dmanfatal.c |
| 08              | eihfun         | eih.fun.c   |
| 09              | enable         | enable.c    |
| 0A              | errlog         | errlog.c    |
| 0B              | event          | event.c     |
| 0C              | fault          | fault.c     |
| 0D              | finducb        | eih.fun.c   |
| 0E              | grchan         | growchan.c  |
| 0F              | growth         | growth.c    |
| 10              | inhibit        | inhibit.c   |
| 11              | in_ect         | init_ect.c  |
| 12              | in_imem        | init_imem.c |
| 13              | inchan         | initchan.c  |
| 14              | maint          | maintint.c  |
| 15              | memerr         | memerr.c    |
| 16              | mkactive       | mkactive.c  |
| 17              | myccerr        | myccerr.c   |
| 18              | myccsoft       | myccsoft.c  |
| 19              | ost            | ost.c       |
| 1A              | othccerr       | othccerr.c  |
| 1B              | pioerr         | pioerr.c    |
| 1C              | pioto          | piotmo.c    |
| 1D              | remofl         | remofl.c    |
| 1E              | search         | eih.fun.c   |
| 1F              | sel_cu         | sel_cu.c    |
| 20              | send_prm       | send_prm.c  |
| 21              | not used       | not used    |
| 22              | sndmira        | send_mira.c |
| 23              | switch         | switch.c    |
| 24              | faltsw         | fault_sw.c  |
| 25              | dmsw           | dmsw.c      |
| 26              | nscerr         | nsc_err.c   |
| 27              | descalate      | descalate.c |
| 28              | zeppelin       | attach.c    |
| 29              | clr_eainew     | clreainew.c |
| 2A              | cr_dmaer       | cr_dmaer.c  |
| 2B              | write_msk      | dmanfatal.c |
| 2C              | oflmswt        | eih.fun.c   |
| 2D              | eihdata        | eih.data.c  |
| 2E              | prminconf      | event.c     |
| 2F              | flt_all        | fault.c     |
| 30              | othmemer       | memerr.c    |
| 31              | othstra        | memerr.c    |
| 32              | mkoos          | mkactive.c  |
| 33              | cleandma       | pioerr.c    |
| 34              | ch_hung        | piotmo.c    |
| 35              | hardsw         | remofl.c    |
| 36              | remonl         | remofl.c    |
| 37              | stupchan       | switch.c    |
| 38              | get_iop_number | olbmisc.c   |
| 39              | verify_incore  | olbmisc.c   |
| 40              | memerr_21      | memerr.c    |
| 41              | othmem21er     | memerr.c    |
| 42              | dma21_err      | dma21err.c  |
| 43              | eaier          | eaier.c     |
| 50              | add_rm_log     | olbmisc.c   |
| 51              | send_tty       | olbmisc.c   |
| 52              | modify_ecd     | olbmodecd.c |

|    |                 |                |
|----|-----------------|----------------|
| 53 | uneqip_dfcs     | olbmodecd.c    |
| 54 | uneqip_iops     | olbmodecd.c    |
| 55 | uneqip_mtty     | olbmodecd.c    |
| 56 | olbdbcontrol    | olbdbcontrol.c |
| 57 | degrow_scsd     | olbmodecd.c    |
| 58 | chg_mtty        | olbmodecd.c    |
| 59 | grow_mtty       | olbmodecd.c    |
| 60 | olbfault        | fault.c        |
| 62 | uneqip_pc       | olbmodecd.c    |
| 63 | send_mch_int    | olbmch.c       |
| 64 | grow_scsd       | olbmodecd.c    |
| 65 | chg_scsd        | olbmodecd.c    |
| 66 | rmv_units       | olbmodecd.c    |
| 67 | degrow_units    | olbmodecd.c    |
| 68 | olb_msg_handler | olbmsghdlr.c   |
| 69 | tim_postsw      | olbtimers.c    |

**APP:IODRV-ERROR**

Software Release: 5E10 and later

**1. ERROR CODES GENERATED BY IODRV FOR GROWTH AND DEGROWTH**

| Code (Hex) | Description                                                                                                                            |
|------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 1          | Cannot get PCSD scratch size for boot time growth                                                                                      |
| 2          | Cannot get PCSD UCB for boot time growth                                                                                               |
| 3          | Cannot get PC scratch size for boot time growth                                                                                        |
| 4          | The downucb( ) failed to get PCSDs for boot time growth                                                                                |
| 5          | Cannot get PC UCB for boot time growth                                                                                                 |
| 6          | The downucb( ) failed to get PCs for boot time growth                                                                                  |
| 7          | Cannot get PIC UCB for boot time growth                                                                                                |
| 8          | ISC failed to allocate memory for boot time growth of PIC                                                                              |
| 9          | Bad unit level for boot time growth                                                                                                    |
| a          | Cannot restore the PIC during boot time growth                                                                                         |
| b          | The ioplevl( ) failed to get level of unit                                                                                             |
| c          | Cannot get PC or PCSD UCB for boot time growth                                                                                         |
| d          | ISC failed to allocate memory for boot time growth of PC or PCSD                                                                       |
| e          | Failed to restore a PIC which has no subunits                                                                                          |
| f          | Cannot initialize PC scratch area during boot time growth                                                                              |
| 10         | Cannot initialize PCSD scratch area during boot time growth                                                                            |
| 11         | Cannot link to handler for boot time growth of PC                                                                                      |
| 12         | Cannot link to handler for boot time growth of PCSD                                                                                    |
| 13         | The UCB is unequipped during boot time due to the sharing of slot number (or pc id) with one PC already equipped.                      |
| 14         | The UCB is unequipped during boot time due to the sharing of subdevice id (or pcsd id) with other subdevice currently equipped.        |
| 1f         | The UCB is unequipped during dynamic growth due to the sharing of slot number (or pc id) with one PC already equipped.                 |
| 20         | Bad unit level for dynamic growth                                                                                                      |
| 21         | Cannot dynamically grow a unit; controlling unit is unequipped                                                                         |
| 22         | Cannot get UCB of the controlling unit for dynamic growth                                                                              |
| 23         | Unit has wrong major state for dynamic growth                                                                                          |
| 24         | Failed to initialize PIC during dynamic growth                                                                                         |
| 25         | Failed to initialize PC during dynamic growth                                                                                          |
| 26         | Failed to link to handler for dynamic growth of a PC                                                                                   |
| 27         | Failed to initialize PCSD during dynamic growth                                                                                        |
| 28         | Failed to link to handler for dynamic growth of a PCSD                                                                                 |
| 29         | Cannot get level of unit for dynamic growth                                                                                            |
| 2a         | Cannot get UCB of unit for dynamic growth                                                                                              |
| 2b         | ISC failed to allocate memory for dynamic growth of a unit                                                                             |
| 2c         | Cannot get size of unit for dynamic growth                                                                                             |
| 2d         | Bad unit level during dynamic growth completion                                                                                        |
| 2e         | The grow( ) encountered bad unit level                                                                                                 |
| 2f         | The UCB is unequipped during dynamic growth due to the sharing of sub-device id (or pcsd id) with other sub-device currently equipped. |
| 30         | ISC failed to deallocate memory for dynamic degrowth of a PIC                                                                          |
| 31         | ISC failed to deallocate memory for dynamic degrowth of a PC                                                                           |
| 32         | ISC failed to deallocate memory for dynamic degrowth of a PCSD                                                                         |
| 33         | Invalid unit level during dynamic degrowth                                                                                             |
| 34         | Cannot dynamically degrow a unit; it has equipped units below it                                                                       |
| 35         | Unit has wrong major state for dynamic degrowth                                                                                        |
| 36         | Cannot link to handler for PC dynamic degrowth                                                                                         |
| 37         | Cannot link to handler for PCSD dynamic degrowth                                                                                       |
| 38         | The degrow( ) encountered unit level out of range                                                                                      |
| 39         | The degrow( ) encountered NULL pointer to IOP data area                                                                                |
| 40         | The dyngrow( ) got bad op code for growth/degrowth                                                                                     |
| 41         | The dyngrow( ) failed to get UCB of unit                                                                                               |

**APP:OFLBOOT-ERR**

Software Release: 5E10 and later

**1. ERROR CODES GENERATED BY OFF-LINE BOOT**

The following are the error codes generated by off-line boot. All reasons happened on the off-line side.

| Code (Hex) | Description                                                                              |
|------------|------------------------------------------------------------------------------------------|
| 00         | received Disk Independent Operation start OST                                            |
| 01         | received OLBCONFIG event outside a side switch                                           |
| 02         | received OLBABORT event outside a side switch                                            |
| 03         | received fault CMC or CMB                                                                |
| 04         | received fault CMAN, CMA, or UCLRMV                                                      |
| 05         | cannot re-enter EXC_OFLECD state when INITLVL 2 is specified                             |
| 06         | cannot build original state tables for CU 0                                              |
| 07         | cannot build original state tables for CU 1                                              |
| 08         | cannot build original state tables for DSCHs                                             |
| 09         | cannot build original state tables for DFCs                                              |
| 10         | cannot build original state tables for IOPs                                              |
| 11         | cannot unequip units in the off-line ECD                                                 |
| 12         | received OLBCONFIG event during side switch                                              |
| 13         | entered DIOP during side switch                                                          |
| 14         | cannot access UCB record of unit being removed during a side switch                      |
| 15         | cannot mark MTTY UCB record as non-essential for removal                                 |
| 16         | cannot mark SCC, ROP, or SCSDC UCB record as non-essential for removal                   |
| 17         | attempted to remove a unit that was not an MTTY, ROP, SCC, or SCSDC during a side switch |
| 18         | cannot send message to IODRV to remove a unit during a side switch                       |
| 19         | cannot access UCB record of unit being degrown during a side switch                      |
| 20         | attempted to degrow a unit that was not an MTTY, ROP, SCC, or SCSDC during a side switch |
| 21         | cannot update UCB record to UNEQIP during a side switch                                  |
| 22         | cannot send message to IODRV to degrow a unit during a side switch                       |
| 23         | cannot send a MCH interrupt from the off-line to the on-line                             |
| 24         | cannot unequip CU community during an off-line boot                                      |
| 25         | cannot unequip DFC communities during an off-line boot                                   |
| 26         | cannot unequip IOP communities during an off-line boot                                   |
| 27         | cannot unequip MTTYC sub-units during an off-line boot                                   |
| 28         | called modify_ecd(SPLIT) from the wrong off-line boot state                              |
| 29         | called modify_ecd( ) with an invalid argument                                            |
| 30         | disk forces were not set                                                                 |
| 31         | corrupted internal tables                                                                |
| 32         | cannot access UCB record                                                                 |
| 33         | corrupted internal tables or corrupted UCB record device type                            |
| 34         | cannot update a community's UCB records as UNEQIP during an off-line boot                |
| 35         | cannot determine which IOPs to unequip during an off-line boot                           |
| 36         | cannot unequip an IOP peripheral controller's sub-units during an off-line boot          |
| 37         | failed to restore TTY to original state after unequipping all PC units                   |
| 38         | cannot update to UNEQIP a UCB record during an off-line boot                             |
| 39         | failed to restore PC to original state after unequipping it                              |
| 40         | corrupted ECD, exceeded number of PCs per IOP                                            |
| 41         | cannot determine which MTTYC sub-units need to be unequip                                |
| 42         | corrupted IOP mask                                                                       |
| 43         | called unequip_mtty( ) from the wrong off-line boot state                                |
| 44         | cannot remove an MTTYC sub-unit during a side switch                                     |
| 45         | cannot unequip MTTYC sub-units after becoming off-line (SW_POST)                         |
| 46         | cannot unequip SCSDC units after becoming off-line (SW_POST)                             |
| 47         | rejected attempt to hard-switch to the on-line side                                      |
| 48         | exceeded error threshold of the other CU: check ROP for error messages                   |

**APP:PROC-FAULT**

Software Release: 5E10 and later

**1. PROCESS FAULT CODE DEFINITIONS**

| Code (Hex) | Description                                                                                                                                                            |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0          | No fault (normal)                                                                                                                                                      |
| b1         | Device reported error for programmed input/output                                                                                                                      |
| b3         | Processor fault for programmed input/output                                                                                                                            |
| b4         | Device reported error for DMA input/output                                                                                                                             |
| b5         | DMA addressing fault for DMA input/output                                                                                                                              |
| b6         | PIC faulted for DMA input/output                                                                                                                                       |
| b7         | Processor fault for DMA input/output                                                                                                                                   |
| b8         | Device reported error - No message                                                                                                                                     |
| b9         | PIC implicated - PIO in progress. No message sent with fault                                                                                                           |
| ba         | Addressing error - PIO in progress. No message associated with fault                                                                                                   |
| bb         | Data being used by the process has non-correctable parity error                                                                                                        |
| bc         | Message Buffer Audit fault for queued error messages                                                                                                                   |
| bd         | Message Buffer Audit fault for nonqueued error messages                                                                                                                |
| c0         | Craft initialization fault                                                                                                                                             |
| c1         | Recovery switch of processors is complete - sent from processor control process error interrupt handler to system integrity monitor and application integrity monitor  |
| c2         | Soft switch is complete - sent from processor control process error interrupt handler to system integrity monitor                                                      |
| c3         | Configuration manager initialize request                                                                                                                               |
| c4         | Configuration manager remove request                                                                                                                                   |
| c5         | Configuration manager remove request                                                                                                                                   |
| c6         | Configuration manager disk independent operation (DIOP)                                                                                                                |
| c7         | Configuration manager DIOP                                                                                                                                             |
| c8         | Configuration manager manual/automatic diagnostic process or routine remove                                                                                            |
| c9         | Unconditional remove                                                                                                                                                   |
| ca         | Request that a soft switch be done - sent from pcpmid to system integrity monitor                                                                                      |
| cb         | Routine soft switch - processor control process error interrupt handler only - sent from system integrity monitor to processor control process error interrupt handler |
| d1         | Memory management - page invalid or not in memory                                                                                                                      |
| d2         | Memory management - page index too large                                                                                                                               |
| d3         | Memory management - segment invalid                                                                                                                                    |
| d4         | Memory management - segment index too large                                                                                                                            |
| d5         | Illegal operating system trap                                                                                                                                          |
| d6         | Protection violation                                                                                                                                                   |
| d7         | Byte or halfword addressing violation                                                                                                                                  |
| d8         | Instruction privilege violation                                                                                                                                        |
| d9         | Illegal op code                                                                                                                                                        |
| da         | Illegal switch between kernel and private stack                                                                                                                        |
| e0         | Phase level 0 initialization                                                                                                                                           |
| e1         | System initialization                                                                                                                                                  |
| e2         | System initialization - critical                                                                                                                                       |

**APP:RTR-ERROR**

Software Release: 5E10 and later

**1. UNIX<sup>®</sup> RTR OPERATING SYSTEM ERROR CODES****1.1 UNIX<sup>®</sup> RTR Operating System/5ESS<sup>®</sup>-2000 switch/IMS panic codes:**

| UTILITY ID (HEX) | PANIC CODE (HEX) | PANIC CODE DESCRIPTION                                                                     |
|------------------|------------------|--------------------------------------------------------------------------------------------|
| 0                | 1                | kboot cannot create a system process                                                       |
| 0                | 2                | bad kernel process dispatcher control table (DCT)                                          |
| 0                | 3                | bad kernel process, process control block (PCB) segment                                    |
| 0                | 4                | bad segment case                                                                           |
| 0                | 5                | bad supervisor process DCT pointer                                                         |
| 0                | 6                | bad supervisor process PCB segment                                                         |
| 0                | 7                | cannot send message to process manager (PMGR)                                              |
| 0                | 8                | cannot send message to file manager (FMGR)                                                 |
| 0                | 9                | cannot send pcreate message                                                                |
| 0                | A                | bad boot segment ID                                                                        |
| 0                | B                | bad kernel message segment ID                                                              |
| 0                | C                | bad kernel DCT segment ID                                                                  |
| 0                | D                | bad kernel interrupt stack ID                                                              |
| 0                | E                | bad port table segment ID                                                                  |
| 0                | F                | bad process ID                                                                             |
| 0                | 10               | cannot create protected application segment (PAS)                                          |
| 0                | 11               | cannot fill in segment table entry                                                         |
| 0                | 12               | PAS too large                                                                              |
| 0                | 13               | cannot create a PUB LIB work segment                                                       |
| 0                | 14               | boot process segment list full                                                             |
| 0                | 15               | boot process segment list overlay                                                          |
| 0                | 16               | invalid root directory block                                                               |
| 0                | 17               | no boot shared library                                                                     |
| 0                | 18               | invalid boot shared library inode                                                          |
| 0                | 19               | cannot allocate boot shared library segment                                                |
| 0                | 1A               | disk read time-out                                                                         |
| 0                | 1B               | DMA system generation (SYSGEN) failure                                                     |
| 0                | 1C               | disk read failure                                                                          |
| 0                | 1D               | cannot apply segment name                                                                  |
| 0                | 1E               | boot time data base is missing                                                             |
| 0                | 20               | not enough swappable memory                                                                |
| 0                | 21               | could not allocate a PAS segment for a kernel process because there are no PAS segments    |
| 0                | 22               | KPCB of a boot process does not have enough entries to accommodate either PAS/ECD segments |
| 1                | 33               | invalid process mode in PSW                                                                |
| 1                | 35               | DCT entry (DCTE) flag does not specify process type                                        |
| 1                | 6E               | function to make space on disk failed                                                      |
| 1                | 6F               | invalid return code from function to load segment                                          |
| 1                | 70               | failed reclaiming swap space                                                               |
| 1                | 71               | unable to retry IO                                                                         |
| 1                | 72               | message drained out of sequence                                                            |
| 1                | 73               | ran out of swap space to boot process                                                      |
| 1                | 74               | ran out of HDBs                                                                            |
| 1                | 75               | unexpected fault                                                                           |
| 1                | 7F               | swap space damaged                                                                         |
| 2                | 80               | capability manager unexpected fault                                                        |
| 3                | 50               | utility manager unexpected fault                                                           |
| 4                | 1                | no buffer segment                                                                          |
| 4                | 2                | could not read root superblock                                                             |
| 4                | 4                | could not read root inode                                                                  |
| 4                | 5                | cannot allocate initialization message to SIM                                              |
| 4                | 6                | could not correct to ECD                                                                   |
| 4                | 7                | no free task slots                                                                         |
| 4                | 8                | bad mount table                                                                            |
| 4                | 9                | illegal block derive                                                                       |
| 4                | C                | mount table full                                                                           |
| 4                | D                | bad inode disk address                                                                     |
| 4                | 10               | too many nontask faults                                                                    |



|    |    |                                                                                                                                                     |
|----|----|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 4  | 11 | too many task faults                                                                                                                                |
| 4  | 12 | too many kfaults                                                                                                                                    |
| 9  | 37 | I/O error loading essential/no-term process                                                                                                         |
| 9  | 38 | scheduler unexpected fault                                                                                                                          |
| A  | 1  | excess number of illegal interrupts                                                                                                                 |
| A  | 2  | bad segment descriptor entry pointer                                                                                                                |
| A  | 3  | faulting kernel                                                                                                                                     |
| A  | 4  | unexpected interrupt                                                                                                                                |
| A  | 5  | unattached process during interrupt                                                                                                                 |
| A  | 6  | dispatching to a nonkernel process                                                                                                                  |
| A  | 7  | bad segment description entry pointer                                                                                                               |
| A  | 8  | faulting kernel                                                                                                                                     |
| A  | 9  | null DCT pointer                                                                                                                                    |
| A  | 10 | invalid branch to zero                                                                                                                              |
| A  | 11 | nonidentifiable kernel fault                                                                                                                        |
| A  | 12 | special process fault                                                                                                                               |
| A  | 13 | fault while handling supervisor OST                                                                                                                 |
| A  | 15 | fault while handling channel OST                                                                                                                    |
| A  | 15 | fault while handling DP OST                                                                                                                         |
| A  | 16 | fault in kernel audit                                                                                                                               |
| 25 | 40 | KDAP driver special process unexpected fault                                                                                                        |
| 8C | 1  | bus interface controller (BIC) for the boot disk file controller (DFC) initialization failed                                                        |
| 8C | 4  | peripheral interface controller (PIC) for the boot DFC initialization failed                                                                        |
| 8C | 5  | failed to find the big boot file entry in the disk table of contents (VTOC)                                                                         |
| 8C | 7  | failed to initialize the DMAC RAM                                                                                                                   |
| 8C | A  | failed to find an entry in the disk VTOC                                                                                                            |
| 8C | B  | disk job timed out                                                                                                                                  |
| 8C | 10 | disk job failed                                                                                                                                     |
| 8C | 20 | page table init routine called with an invalid parameter                                                                                            |
| 8C | 21 | channel err during PIO SYSGEN command to disk                                                                                                       |
| 8C | 22 | disk job failed                                                                                                                                     |
| 8D | 2  | enable hardware checks with an error source present                                                                                                 |
| 8D | 8  | a UNIX <sup>®</sup> RTR Operating System level 3 phase will be called because up-to-date off-line memory is not accessible after CU stop-and-switch |
| 8E | 1  | failed to initialize the BIC for the boot DFC                                                                                                       |
| 8E | 2  | failed to initialize the PIC for the boot DFC                                                                                                       |
| 8E | 3  | failed to initialize the PIC for the boot DFC                                                                                                       |
| 8E | 4  | failed to find the disk vtoc entry for the file being loaded                                                                                        |
| 8E | 5  | failed to find the boot file or a boot time data base (BTDA)                                                                                        |
| 8E | 6  | failed to find the boot file or a BTDB                                                                                                              |
| 8E | 9  | disk data is no good                                                                                                                                |
| 8E | 10 | disk data is no good                                                                                                                                |
| 8E | 20 | page table init routine called with an invalid parameter                                                                                            |
| 8E | 21 | channel error during a PIO SYSGEN command to disk                                                                                                   |
| 8E | 22 | disk job failed                                                                                                                                     |
| 8E | 31 | bad equipment configuration data (ECD)                                                                                                              |
| 8E | 32 | bad ECD                                                                                                                                             |
| 8E | 33 | bad ECD                                                                                                                                             |
| 8E | 63 | disk job timed out                                                                                                                                  |
| C0 | 1  | encountered a fault while handling a fault                                                                                                          |
| C0 | 2  | excessive software faults                                                                                                                           |
| C0 | 3  | excessive unrecoverable errors while processing a fault                                                                                             |
| C0 | 4  | excessive unrecoverable errors while processing a fault where IOPs were affected but not implicated                                                 |
| C1 | 1  | CONFIG failed a rptrerr call - deljob.c                                                                                                             |
| C1 | 2  | CONFIG failed a rptrerr call - dojob.c                                                                                                              |
| C1 | 3  | message buffer allocation failed - kevent.c                                                                                                         |
| C1 | 4  | disk drive software fault detected - kfault.c                                                                                                       |
| C1 | 5  | CONFIG failed a rptrerr call - kfault.c                                                                                                             |
| C1 | 6  | disk independent operation (DIOP) initialization failed - jobrsp.c                                                                                  |
| C1 | 7  | DIOP initialization failed - kfault.c                                                                                                               |
| C1 | 8  | DIOP initialization failed - kfault.c                                                                                                               |
| C1 | 9  | CONFIG failed a rptrerr call - kfault.c                                                                                                             |
| C1 | A  | DIOP initialization failed - kfault.c                                                                                                               |
| C1 | B  | DIOP enable interrupt failed - kfault.c                                                                                                             |
| C1 | C  | CONFIG failed a rptrerr call - kfault.c                                                                                                             |
| C1 | D  | DIOP initialization failed - kfault.c                                                                                                               |
| 83 | 2  | EIH failed to attach to the ECD                                                                                                                     |
| 83 | 10 | channel error                                                                                                                                       |
| 83 | 20 | DMA detected fatal hardware fault in on-line main store                                                                                             |
| 83 | 21 | DMA detected out-of-range memory reference                                                                                                          |

|     |    |                                                                                                                        |
|-----|----|------------------------------------------------------------------------------------------------------------------------|
| 83  | 22 | DMA detected non-correctable parity failure in main store                                                              |
| 83  | 26 | DMA error: bad parity on read                                                                                          |
| 83  | 27 | DMA error: DMA RAM parity failure                                                                                      |
| 83  | 28 | DMA error: DMA incrementer parity failure                                                                              |
| 83  | 2C | DMA error: CCIO data parity failure                                                                                    |
| 83  | 2D | DMA error: CCIO command failure                                                                                        |
| 83  | 2E | DMA error: DMA ROM sequencer parity failure                                                                            |
| 83  | 2D | DMA error: CCIO command failure                                                                                        |
| 83  | 2E | DMA error: DMA ROM sequencer parity failure                                                                            |
| 83  | 4D | boot disk off-line or unavailable                                                                                      |
| 83  | 51 | ECD audit failure                                                                                                      |
| 83  | C4 | fault FLT CMA remove request                                                                                           |
| 83  | C5 | fault FLT CMB remove request                                                                                           |
| 83  | C6 | fault FLT CMC remove request                                                                                           |
| 83  | C8 | fault FLT CMAN manual remove request                                                                                   |
| 83  | C9 | fault FLT UCLRMV unconditional remove                                                                                  |
| 83  | E1 | ECD access failure                                                                                                     |
| 83  | E2 | zero transfer vector encountered                                                                                       |
| 83  | E4 | ECD audit UCB data errors for which EIH is responsible                                                                 |
| 83  | E5 | hard switch due to a reconfiguration request from CONFIG                                                               |
| 83  | E6 | hard switch due to DIOP request from CONFIG                                                                            |
| 85  | 1  | caused fault while executing the event entry too many times a phase is called to protect against kernel stack overflow |
| 85  | 2  | caused fault while executing the fault entry too many times a phase is called to protect against kernel stack overflow |
| 187 | 1  | initialization failure                                                                                                 |
| 187 | 4  | audit recovery                                                                                                         |
| 187 | 9  | message buffer overflow                                                                                                |
| 187 | B  | critical message buffer overflow                                                                                       |
| 187 | C  | SIM fault threshold reached                                                                                            |
| 187 | C8 | application sanity failure                                                                                             |
| 400 | 2  | AIM ASSERT phase trigger                                                                                               |
| 400 | 2  | PMGR essential process failure                                                                                         |
| 400 | 2  | essential process init failure                                                                                         |
| 400 | 2  | essential process init timeout                                                                                         |
| 400 | 2  | SMKP init progress timeout                                                                                             |
| 400 | 2  | OKP init progress timeout                                                                                              |
| 400 | 2  | SMKP detected lack of init progress                                                                                    |
| 400 | 2  | OKP detected lack of init progress                                                                                     |
| 400 | B  | AIM detected lack of SMKP activity                                                                                     |
| 400 | C  | AIM detected lack of MSKP activity                                                                                     |
| 400 | D  | AIM detected lack of OKP activity                                                                                      |
| 400 | E  | lack of communications to all SMs                                                                                      |
| 400 | F  | excessive E-bit continuity failures                                                                                    |
| 400 | 10 | SMKP MCB exhaustion                                                                                                    |
| 400 | 11 | SMKP TCB exhaustion                                                                                                    |
| 400 | 12 | OKP MCB exhaustion                                                                                                     |
| 400 | 13 | OKP TCB exhaustion                                                                                                     |
| 400 | 14 | OKP software escalation                                                                                                |
| 400 | 15 | SMKP software escalation                                                                                               |
| 400 | 16 | SMKP abort counter overflow                                                                                            |
| 400 | 17 | OSSENDMSG failure during init                                                                                          |
| 400 | 18 | OSTIMER failure during init                                                                                            |
| 400 | 19 | SMKP fault rcvy activity counter overflow                                                                              |
| 400 | 1A | directed audit exceeded time limit                                                                                     |
| 400 | 1B | essential process FPI timeout                                                                                          |
| 400 | 1C | D1 escalation to D2                                                                                                    |
| 400 | 1E | AMDW FPI request                                                                                                       |
| 400 | 1F | essential process FPI request                                                                                          |
| 400 | 20 | PLOP failure to load ODD                                                                                               |
| 400 | 21 | AIM port to process number failure                                                                                     |
| 400 | 22 | lack of SMKP integrity monitor activity                                                                                |
| 400 | 23 | lack of OKP integrity monitor activity                                                                                 |
| 400 | 24 | lack of OKP call processing activity                                                                                   |
| 400 | 25 | SMKP PCB exhaustion                                                                                                    |
| 400 | 26 | OKP SCB exhaustion                                                                                                     |
| 400 | 27 | SMKP SCB exhaustion                                                                                                    |
| 400 | 28 | OKP SCB exhaustion                                                                                                     |
| 400 | 2D | CCS init request                                                                                                       |
| 400 | 64 | IM found a pump not making progress                                                                                    |
| 400 | 80 | SMKP PCD inconsistency                                                                                                 |

|     |    |                         |
|-----|----|-------------------------|
| 400 | 81 | SMKP ODD access failure |
| 400 | 82 | TMS duplex failure      |
| 400 | 83 | FPC duplex failure      |
| 400 | 84 | MSCU duplex failure     |
| 400 | 99 | excessive MSKP SW error |

## 1.2 UNIX<sup>®</sup> RTR Operating System fault codes

There is a complete list of faults in UNIX<sup>®</sup> RTR Operating System header file fault.h

(a) The following are special AIM faults from UNIX<sup>®</sup> RTR Operating System:

| HEX  | SYMBOL      | FAULT DESCRIPTION                                         |
|------|-------------|-----------------------------------------------------------|
| 8x81 | OV SOPOK    | -                                                         |
| 8x82 | OV SOPOVLD  | -                                                         |
| 8x85 | OV DLINCLR  | -                                                         |
| 8x86 | OV DLINOVLD | -                                                         |
| 8x87 | OV DLOPCLR  | -                                                         |
| 8x88 | OV DLOPOVLD | -                                                         |
| 8x8b | OV IOPOK    | -                                                         |
| 8x8c | OV IOPOVLD  | -                                                         |
| 8x8d | OV IOPBOOT  | IODRV is going into recovery                              |
| 8x8f | OV DFCOK    | -                                                         |
| 8x90 | OV DFCOVLD  | -                                                         |
| 8x91 | OV FMOVCLR  | -                                                         |
| 8x92 | OV FMOVLD   | -                                                         |
| 8x95 | OV SUOVCLR  | -                                                         |
| 8x96 | OV SUOVLD   | -                                                         |
| 8x97 | OV TEOVCLR  | -                                                         |
| 8x98 | OV TEOVLD   | -                                                         |
| 8x99 | OV KLCLR    | Kernel level lockout cleared                              |
| 8x9a | OV KLOCK    | Kernel level lockout detected                             |
| 8x9c | OV MEM1CLR  | -                                                         |
| 8x9d | OV MEM1LOW  | -                                                         |
| 8x9e | OV MEM1FULL | -                                                         |
| 8x9f | OV DCTOK    | -                                                         |
| 8xa0 | OV DCTOVLD  | -                                                         |
| 8xa1 | OV DCTCRIT  | -                                                         |
| 8xa2 | OV SDECLR   | -                                                         |
| 8xa3 | OV SDELOW   | -                                                         |
| 8xa4 | OV SDEPRFL  | -                                                         |
| 8xa5 | OV SWAPCLR  | -                                                         |
| 8xa6 | OV SWAPLOW  | -                                                         |
| 8xa7 | OV MEMCLR   | -                                                         |
| 8xa8 | OV MEMLOW   | Memory low                                                |
| 8xa9 | OV MEMKPFL  | -                                                         |
| 0xac | OV MSGOK    | Message buffer overload cleared                           |
| 0xad | OV MSGLOW   | Message buffer overload                                   |
| 0xae | OV MSGCRIT  | Critical message buffer overload                          |
| 0xaf | OV MSGOUT   | No message buffers available                              |
| 0xc1 | FLT RSCOMP  | Recovery switch complete (sent from PCPEIH to SIM to AIM) |
| 0xc2 | FLT SSCOMP  | Soft switch complete (sent from PCPEIH to SIM to AIM)     |
| 0xca | FLT SSREQ   | Soft switch request (sent from PCPMA to SIM to AIM)       |
| 0xe0 | FLT PHASE0  | D0 Initialization                                         |

(b) The following are special SIM faults:

| HEX  | SYMBOL       | FAULT DESCRIPTION                                         |
|------|--------------|-----------------------------------------------------------|
| 0x00 | NOFLT        | no fault (normal)                                         |
| 0xb0 | FLT FULL DIO | DIO state is FULL DIOP MODE                               |
| 0xbf | FLT SIMPLEX  | DIO state is SIMPLEX                                      |
| 0xbe | FLT DUPLEX   | DIO state is SIMPLEX                                      |
| 0xc0 | FLT CFT      | Craft Init Fault                                          |
| 0xc1 | FLT RSCOMP   | Recovery switch complete (sent from PCPEIH to SIM to AIM) |
| 0xc2 | FLT SSCOMP   | Soft switch complete (sent from PCPEIH to SIM to AIM)     |
| 0xca | FLT SSREQ    | Soft switch request (sent from PCPMA to SIM to AIM)       |
| 0xcb | FLT SOFTSW   | Routine soft switch (pcpeih only) from sim to pcpeih      |
| 0xe2 | FLT SCRIT    | Critical system fault                                     |

(c) The following are special Programmed Input/Output driver faults:

| HEX  | SYMBOL    | FAULT DESCRIPTION                                      |
|------|-----------|--------------------------------------------------------|
| 0xb1 | FLT DREP  | Device reported error for PIO (KP only)                |
| 0xb2 | FLT PICP  | PIC fault for PIO (KP only)                            |
| 0xb3 | FLT CCP   | Processor fault for PIO (KP only)                      |
| 0xb4 | FLT DRED  | Device reported error for DMA IO                       |
| 0xb5 | FLT ADRD  | DMA addressing fault for DMA IO (KP only)              |
| 0xb6 | FLT PICD  | PIC Fault for DMA IO (KP only)                         |
| 0xb7 | FLT CCD   | Processor fault for DMA IO (KP only)                   |
| 0xb8 | FLT NDREP | Device reported error (PIO, no msg)                    |
| 0xb9 | FLT NPICP | PIC implicated (PIO in progress, no msg assoc w/fault) |
| 0xba | FLT NADRP | Addr err (PIO in progress, no msg associated w/fault)  |

(d) The following are special driver faults:

| HEX  | SYMBOL     | FAULT DESCRIPTION                                           |
|------|------------|-------------------------------------------------------------|
| 0xc3 | FLT CMI    | Config. Manager initialization request (KP only)            |
| 0xc4 | FLT CMA    | Config. Manager remove request (KP only)                    |
| 0xc5 | FLT CMB    | Config. Manager remove request (KP only)                    |
| 0xc6 | FLT CMC    | Config. Manager disk independent operation (DIOP) (KP only) |
| 0xc7 | FLT CMD    | Config. Manager DIOP (KP only)                              |
| 0xc8 | FLT CMAN   | Config. Manager manual/ADP or routine remove (KP only)      |
| 0xc9 | FLT UCLRMV | Unconditional remove (KP only)                              |
| 0xcc | FLT CRMV   | Config. Manager remove under fault conditions (KP only)     |

(e) The following are HW faults that all processes must handle: At minimum a SPP (or equivalent) and a transfer to a safe point should be performed.

| HEX  | SYMBOL  | FAULT DESCRIPTION                                      |
|------|---------|--------------------------------------------------------|
| 0xbb | FLT MYC | Data being used by KP has non-correctable parity error |

(f) The following are message faults that all process must handle. Get message buffer pointers and set status of each to AUD\_MSLOST via aud\_setsts().

| HEX  | SYMBOL        | FAULT DESCRIPTION                             |
|------|---------------|-----------------------------------------------|
| 0xbc | FLT WMSAUD    | Msg buffer audit error for old non-queued msg |
| 0xbd | FLT NONQMSAUD | Msg buffer audit error for old non-queued msg |

(g) The following are SW faults that all processes must handle. At minimum a SPP (or equivalent) and a transfer to a safe point should be performed.

| HEX  | SYMBOL     | FAULT DESCRIPTION                                   |
|------|------------|-----------------------------------------------------|
| 0xd1 | FLT PINV   | Memory management (page invalid or not in memory)   |
| 0xd2 | FLT PIND   | Memory management (page index too large)            |
| 0xd3 | FLT SINV   | Memory management (segment invalid)                 |
| 0xd4 | FLT SIND   | Memory management (segment index too large)         |
| 0xd5 | FLT BADOST | illegal ost                                         |
| 0xd6 | FLT PROT   | protection evolution (check private stack overflow) |
| 0xd7 | FLT ADDR   | byte or half-word addressing violation              |
| 0xd8 | FLT PRIV   | Instruction privilege violation                     |
| 0xd9 | FLT OPCD   | Illegal op code                                     |
| 0xda | FLT STACK  | Illegal switch between kernel & private stack       |
| 0xe1 | FLT SINIT  | D1 System Initialization                            |

(h) The following are DAP faults from AIM:

| HEX  | SYMBOL         | FAULT DESCRIPTION                            |
|------|----------------|----------------------------------------------|
| 0x78 | INFLT AOSTFAIL | OST to AIM failed                            |
| 0x79 | INFLT OKPONSTK | OKP is on interrupt stack                    |
| 0xf0 | INFLT CREATED  | AIM create fault                             |
| 0xf1 | INFLT SOFT     | SW Fault from AIM, request init level & init |

### 1.3 The following are *UNIX*® RTR Operating System PMGR error codes:

| HEX | DECIMAL | DEFINITION                                                                                                  |
|-----|---------|-------------------------------------------------------------------------------------------------------------|
| 33  | 51      | Message type not recognized                                                                                 |
| 34  | 53      | Library file does not exist                                                                                 |
| 35  | 54      | All DCTEs are in use (pstrt or kpstart failed)                                                              |
| 36  | 55      | Failure to load a kernel process because of insufficient memory                                             |
| 37  | 56      | All SDEs are allocated or there is no swap space left                                                       |
| 38  | 57      | Unable to read a pfile or library file                                                                      |
| 3A  | 58      | Segment too big for virtual address space available                                                         |
| 3B  | 59      | Can't add a shared segment to the process                                                                   |
| 3C  | 60      | Incarnation count too big for process                                                                       |
| 3E  | 62      | Can't acquire a PCB of a terminating process                                                                |
| 3F  | 63      | PMGR faulted, entered fault routine                                                                         |
| 40  | 64      | NUB faulted, entered fault routine                                                                          |
| 43  | 67      | Bad acknowledgment from copyseg OST                                                                         |
| 44  | 68      | Pfile (LDP output) doesn't exist, or does not have correct magic number, or wrong supervisor or kernel mode |
| 46  | 70      | Can't open dump file specified in termination message                                                       |
| 47  | 71      | Unable to write out a segment of a process being dumped                                                     |
| 48  | 72      | Can't get capability for working directory                                                                  |
| 49  | 73      | Unable to close file                                                                                        |
| 4B  | 75      | Can't open or get segment name of device process                                                            |
| 4C  | 76      | Message from unauthorized process                                                                           |
| 4D  | 77      | Segment index overlay warning                                                                               |
| 4E  | 78      | Unable to lock shared library in memory                                                                     |
| 50  | 80      | Process termination has already been completed by the Process Administration Process Termination Audit      |
| 51  | 81      | Pfile requests PAS; no PAS specified on sgen1 form                                                          |
| 52  | 82      | Could not duplicate pfile capabilities for the NUB                                                          |
| 54  | 84      | Shared segment index specified different physical module than that specified by segid                       |
| 55  | 85      | Invalid PCB index                                                                                           |

#### 1.4 The following are **UNIX<sup>®</sup>** RTR Operating System FMGR error codes:

| SYMBOL  | DECIMAL | FMGR ERROR CODE DESCRIPTION    |
|---------|---------|--------------------------------|
| EPERM   | 1       | Not super-user                 |
| ENOENT  | 2       | No such file or directory      |
| ESRCH   | 3       | No such process                |
| EINTR   | 4       | interrupted system call        |
| EIO     | 5       | I/O error                      |
| ENXIO   | 6       | No such device or address      |
| E2BIG   | 7       | Arg list too long              |
| ENOEXEC | 8       | Exec format error              |
| EBADF   | 9       | Bad file number                |
| ECHILD  | 10      | No children                    |
| EAGAIN  | 11      | No more processes              |
| ENOMEM  | 12      | Not enough core                |
| EACCES  | 13      | Permission denied              |
| EFAULT  | 14      | Bad address                    |
| ENOTBLK | 15      | Block device required          |
| EBUSY   | 16      | Mount device busy              |
| EEXIST  | 17      | File exists                    |
| EXDEV   | 18      | Cross-device link              |
| ENODEV  | 19      | No such device                 |
| ENOTDIR | 20      | Not a directory                |
| EISDIR  | 21      | Is a directory                 |
| EINVAL  | 22      | Invalid argument               |
| ENFILE  | 23      | File table overflow            |
| EMFILE  | 24      | Too many open files            |
| ENOTTY  | 25      | Not a typewriter               |
| ETXTBSY | 26      | Text file busy                 |
| EFBIG   | 27      | File too large                 |
| ENOSPC  | 28      | No space left on device        |
| ESPIPE  | 29      | Illegal seek                   |
| EROFS   | 30      | Read only file system          |
| EMLINK  | 31      | Too many links                 |
| EPIPE   | 32      | Broken pipe                    |
| ETEMP   | 33      | Temped file                    |
| EDOM    | 33      | Math arg out of domain of func |
| ERANGE  | 34      | Math result not representable  |
| EAUD    | 37      | Mount audit failure            |



**APP:UTIL-ID**

Software Release: 5E10 and later

**1. UTILITY IDs****1.1 UID: 0-500**

| Area | Process   | Type | UID | Hex UID | Exlev   | ATB     |
|------|-----------|------|-----|---------|---------|---------|
| AM   | kboot     |      | 0   | 0x0     |         | default |
| AM   | mmgr      | k    | 1   | 0x1     | 2       | default |
| AM   | cpmgr     | k    | 2   | 0x2     | 2       | default |
| AM   | umgr      | k    | 3   | 0x3     | 2       | default |
| AM   | fmgr      | k    | 4   | 0x4     | 7       | default |
| AM   | 3bpmgr    | s    | 5   | 0x5     |         | default |
| AM   |           |      | 6   | 0x6     |         | default |
| AM   |           |      | 7   | 0x7     |         | default |
| AM   | 3bnub     | s    | 8   | 0x8     |         | default |
| AM   | sched     | k    | 9   | 0x9     | 2       | default |
| AM   | kernel    |      | 10  | 0xA     |         | default |
| AM   | prcpkill  | s    | 11  | 0xb     |         | default |
| AM   |           |      | 12  | 0xc     |         | default |
| AM   |           |      | 13  | 0xd     |         | default |
| AM   |           |      | 14  | 0xe     |         | default |
| AM   | memprc    | k    | 15  | 0xf     |         | default |
| AM   | getty     | u    | 16  | 0x10    | default | default |
| AM   | init      | u    | 17  | 0x11    | default | default |
| AM   | login     | u    | 18  | 0x12    | default | default |
| AM   | sh        | u    | 19  | 0x13    | default | default |
| AM   | update    | u    | 20  | 0x14    | default | default |
| AM   | cron      | u    | 21  | 0x15    | default | default |
| AM   | prcpkillp | s    | 22  | 0x16    |         | default |
| AM   | fifoprc   |      | 23  | 0x17    | 11      | default |
| AM   | clrfs     | u    | 24  | 0x18    | default | default |
| AM   | clri      | u    | 25  | 0x19    | default | default |
| AM   | df        | u    | 26  | 0x1a    | default | default |
| AM   | dgnnm     | u    | 27  | 0x1b    | default | default |
| AM   | fsdb      | u    | 28  | 0x1c    | default | default |
| AM   | ichk      | u    | 29  | 0x1d    | default | default |
| AM   | mkmnttab  | u    | 30  | 0x1e    | default | default |
| AM   | mknod     | u    | 31  | 0x1f    | default | default |
| AM   | mount     | u    | 32  | 0x20    | default | default |
| AM   | ps        | u    | 33  | 0x21    | default | default |
| AM   | udgnnm    | u    | 34  | 0x22    | default | default |
| AM   | umount    | u    | 35  | 0x23    | default | default |
| AM   | vcp       | u    | 36  | 0x24    | default | default |
| AM   | kdapdrv   |      | 37  | 0x25    |         | default |
| AM   | klla      | k    | 38  | 0x26    | 7       | default |
| AM   | ecdman    | k    | 65  | 0x41    | 5       | default |
| AM   | mira      | u    | 66  | 0x42    | default | default |
| AM   | ABT       | u    | 67  | 0x43    | default | default |
| AM   | ALW       | u    | 68  | 0x44    | default | default |
| AM   | DGN       | u    | 69  | 0x45    | default | default |
| AM   | EX        | u    | 70  | 0x46    | default | default |
| AM   | INH       | u    | 71  | 0x47    | default | default |
| AM   | LDPARM    | u    | 72  | 0x48    | default | default |
| AM   | LOOP      | u    | 73  | 0x49    | default | default |
| AM   | PAUSE     | u    | 74  | 0x4a    | default | default |
| AM   | RMV       | u    | 75  | 0x4b    | default | default |
| AM   | RST       | u    | 76  | 0x4c    | default | default |
| AM   | STA       | u    | 77  | 0x4d    | default | default |
| AM   | STEP      | u    | 78  | 0x4e    | default | default |
| AM   | STOP      | u    | 79  | 0x4f    | default | default |
| AM   | tlpscn    | u    | 80  | 0x50    | default | default |
| AM   | abt       | u    | 81  | 0x51    | default | default |
| AM   | dgn       | u    | 82  | 0x52    | default | default |
| AM   | duc       | u    | 83  | 0x53    | default | default |
| AM   | ex        | u    | 84  | 0x54    | default | default |
| AM   | inh       | u    | 85  | 0x55    | default | default |
| AM   | ldparm    | u    | 86  | 0x56    | default | default |

|    |            |   |     |      |         |         |
|----|------------|---|-----|------|---------|---------|
| AM | loop       | u | 87  | 0x57 | default | default |
| AM | pause      | u | 88  | 0x58 | default | default |
| AM | ports      | u | 89  | 0x59 | default | default |
| AM | rmv        | u | 90  | 0x5a | default | default |
| AM | rst        | u | 91  | 0x5b | default | default |
| AM | sta        | u | 92  | 0x5c | default | default |
| AM | step       | u | 93  | 0x5d | default | default |
| AM | stop       | u | 94  | 0x5e | default | default |
| AM | inhtimer   | u | 95  | 0x5f | default | default |
| AM | ppdiamon   | u | 96  | 0x60 | default | default |
| AM | tlp        | u | 98  | 0x62 | default | default |
| AM | dfdiag     | u | 99  | 0x63 | default | default |
| AM | iodiag     | u | 100 | 0x64 | default | default |
| AM | iormv      | u | 101 | 0x65 | default | default |
| AM | dfrmvm     | u | 102 | 0x66 | default | default |
| AM | cudiagc    | u | 103 | 0x67 | default | default |
| AM | alw        | u | 107 | 0x6b | default | default |
| AM | dgntimer   | u | 108 | 0x6c | default | default |
| AM | pcpmd      | k | 130 | 0x82 | 3       | default |
| AM | pcpeih     | k | 131 | 0x83 | 15      | default |
| AM | rmf        | u | 132 | 0x84 | default | default |
| AM | pcpau      | k | 133 | 0x85 | 3       | default |
| AM | inhadm     | k | 134 | 0x86 |         | default |
| AM | apd_af     | u | 135 | 0x87 | default | default |
| AM | op_cfgstat | u | 136 | 0x88 | default | default |
| AM | op_oos     | u | 136 | 0x88 | default | default |
| AM | fsmon      | u | 138 | 0x8a | default | default |
| AM | ularp      | u | 139 | 0x8b | default | default |
| AM | lboot      |   | 140 | 0x8c |         | default |
| AM | pinit      |   | 141 | 0x8d |         | default |
| AM | bboot      |   | 142 | 0x8e |         | default |
| AM | adp_ab     | u | 143 | 0x8f | default | default |
| AM | alw_rex    | u | 144 | 0x90 | default | default |
| AM | inh_rex    | u | 145 | 0x91 | default | default |
| AM | op_rexin   | u | 146 | 0x92 | default | default |
| AM | alw        | u | 147 | 0x93 | default | default |
| AM | inh        | u | 148 | 0x94 | default | default |
| AM | inh        | u | 149 | 0x95 | default | default |
| AM | sw         | u | 150 | 0x96 | default | default |
| AM | curstrmv   | u | 151 | 0x97 | default | default |
| AM | dmp        | u | 152 | 0x98 | default | default |
| AM | memerr2    | u | 153 | 0x99 | default | default |
| AM | iodrv      | k | 192 | 0xc0 | 10      | 7       |
| AM | dkdrv      | k | 193 | 0xc1 | 0xa     | 4       |
| AM | scsd       | k | 194 | 0xc2 | 4       | default |
| AM | update     | s | 196 | 0xc4 | default | default |
| AM | cmpcor     | u | 201 | 0xc9 |         | default |
| AM | dskutil    | s | 202 | 0xca | default | default |
| AM | opinfo     | u | 205 | 0xcd | default | default |
| AM | fmtvfy     | u | 206 | 0xce | default | default |
| AM | iodop      | u | 208 | 0xd0 | default | default |
| AM | opiodop    | u | 209 | 0xd1 | default | default |
| AM | pdsint     | u | 210 | 0xd2 | default | default |
| AM | adex       | u | 211 | 0xd3 | default | default |
| AM | alw_scsd   | u | 211 | 0xd3 | default | default |
| AM | reset_fan  | u | 211 | 0xd3 | default | default |
| AM | inh_scsd   | u | 212 | 0xd4 | default | default |
| AM | op_scsd    | u | 213 | 0xd5 | default | default |
| AM | ord_scsd   | u | 214 | 0xd6 | default | default |
| AM | dmpvtoc    | u | 215 | 0xd7 | default | default |
| AM | dmpdefect  | u | 216 | 0xd8 | default | default |
| AM | ldefect    | u | 216 | 0xd8 | default | default |
| AM | dmpblock   | u | 217 | 0xd9 | default | default |
| AM | sdio       | u | 217 | 0xd9 | default | default |
| AM | dkdisp     | u | 218 | 0xda | default | default |
| AM | linkbigd   | u | 219 | 0xdb | default | default |
| AM | linkcshl   | u | 220 | 0xdc | default | default |
| AM | linkdloop  | u | 221 | 0xdd | default | default |
| AM | linkdots   | u | 222 | 0xde | default | default |
| AM | linkloop   | u | 223 | 0xdf | default | default |
| AM | linkrcvf   | u | 224 | 0xe0 | default | default |
| AM | linkshell  | u | 225 | 0xe1 | default | default |



|     |            |   |     |       |         |         |
|-----|------------|---|-----|-------|---------|---------|
| AM  | linksndf   | u | 226 | 0xe2  | default | default |
| AM  | linksread  | u | 227 | 0xe3  | default | default |
| AM  | linkstars  | u | 228 | 0xe4  | default | default |
| AM  | linkread   | u | 229 | 0xe5  | default | default |
| AM  | linkteps   | u | 230 | 0xe6  | default | default |
| AM  | linktest   | u | 231 | 0xe7  | default | default |
| AM  | linkwloop  | u | 232 | 0xe8  | default | default |
| AM  | sndrcv     | u | 233 | 0xe9  | default | default |
| AM  | urdrproc   | u | 234 | 0xea  | default | default |
| AM  | uwrproc    | u | 235 | 0xeb  | default | default |
| cni | chglim     | u | 237 | 0xed  | default | default |
| cni | lockaud    | u | 237 | 0xed  | default | default |
| AM  | nscusend   | u | 256 | 0x100 | default | default |
| AM  | nscd       | u | 257 | 0x101 | default | default |
| 5e  | ucntl      | u | 258 | 0x102 | default | default |
| AM  | UPD        | u | 258 | 0x102 | default | default |
| AM  | perform    | u | 258 | 0x102 | default | default |
| AM  | prchk      | s | 259 | 0x103 |         | default |
| 5e  | DBodinfo   | u | 260 | 0x104 | default | default |
| AM  | dufr       | s | 260 | 0x104 |         | default |
| AM  | kop        | k | 261 | 0x105 | 3       | default |
| AM  | bwm123oild | u | 262 | 0x106 | default | default |
| d5e | idump      | u | 262 | 0x106 | default | default |
| AM  | bwm123ogen | u | 263 | 0x107 | default | default |
| AM  | ogen       | u | 263 | 0x107 | default | default |
| 5e  | bldboot    | u | 265 | 0x109 | default | default |
| AM  | INoutput   | u | 267 | 0x10b |         | default |
| AM  | cdcmpr     | s | 267 | 0x10b |         | default |
| 5e  | DBlgdec    | u | 268 | 0x10c | default | default |
| AM  | gspovmon   | k | 273 | 0x111 | 3       | default |
| AM  | gspac      | k | 274 | 0x112 | 3       | default |
| AM  | gspshl     | u | 275 | 0x113 | default | default |
| AM  | gspop      | u | 276 | 0x114 | default | default |
| AM  | usr1       | u | 277 | 0x115 | default | default |
| AM  | usr2       | u | 278 | 0x116 | default | default |
| AM  | pldmon     | k | 279 | 0x117 | 3       | default |
| AM  | mkdsk      | u | 285 | 0x11d | default | default |
| AM  | isgen      | u | 286 | 0x11e | default | default |
| AM  | browse     | u | 287 | 0x11f | default | default |
| AM  | copy       | u | 289 | 0x121 | default | default |
| AM  | dart       | k | 291 | 0x123 | 0xE     | default |
| AM  | kopf       | k | 292 | 0x124 | 14      | default |
| AM  | inremote   | u | 293 | 0x125 | default | default |
| 5e  | UPclrpar   | u | 294 | 0x126 | default | default |
| 5e  | UPvfypar   | u | 295 | 0x127 | default | default |
| AM  | bwmint     | u | 299 | 0x12b | default | default |
| AM  | filerecv   | u | 301 | 0x12d | default | default |
| AM  | bwmclr     | u | 302 | 0x12e | default | default |
| 5e  | UPverify   | u | 303 | 0x12f | default | default |
| AM  | bwmvfy     | u | 303 | 0x12f | default | default |
| AM  | nscloop    | u | 304 | 0x130 | default | default |
| AM  | nschist    | u | 305 | 0x131 | default | default |
| AM  | pl_aux     | u | 306 | 0x132 | default | default |
| AM  | ibrowse    | u | 307 | 0x133 | default | default |
| AM  | standalone | u | 308 | 0x134 | default | default |
| AM  | nsc        | k | 312 | 0x138 | 11      | default |
| AM  | nscrecv    | u | 313 | 0x139 | default | default |
| AM  | nsclisten  | u | 314 | 0x13a | default | default |
| AM  | nscmd      | u | 315 | 0x13b | default | default |
| AM  | nscmon     | u | 316 | 0x13c | default | default |
| AM  | nustat     | u | 318 | 0x13e | default | default |
| AM  | nscexec    | u | 319 | 0x13f | default | default |
| AM  | duitest    | k | 349 | 0x15d | 12      | default |
| AM  | startest   | u | 350 | 0x15e | default | default |
| AM  | stats      | u | 351 | 0x15f | default | default |
| AM  | dumplink   | u | 352 | 0x160 | default | default |
| AM  | checksum   | u | 353 | 0x161 | default | default |
| AM  | trash      | u | 354 | 0x162 | default | default |
| AM  | hptest     | k | 355 | 0x163 | 3       | default |
| AM  | pmsaud     | u | 355 | 0x163 | 13      | default |
| AM  | op_fname   | u | 389 | 0x185 |         | default |
| AM  | klmon      | k | 390 | 0x186 | default | default |

|     |           |   |     |       |         |         |
|-----|-----------|---|-----|-------|---------|---------|
| AM  | simprc    | k | 391 | 0x187 | 3       | default |
| AM  | suovprc   | s | 392 | 0x188 | 3       | default |
| AM  | audtimer  | u | 393 | 0x189 | default | default |
| AM  | fsaud     | k | 402 | 0x192 | 3       | default |
| AM  | fsaudit   | k | 402 | 0x192 | default | default |
| AM  | iecdaud   | u | 418 | 0x1a2 | default | default |
| AM  | ukr_spy   | k | 452 | 0x1c4 | default | default |
| AM  | cmpr      | u | 453 | 0x1c5 | default | default |
| AM  | ftcr      | u | 454 | 0x1c6 | default | default |
| AM  | ucm       | u | 455 | 0x1c7 | default | default |
| cni | cMnrgen   | u | 469 | 0x1d5 | default | default |
| AM  | fudisplay | u | 474 | 0x1da | default | default |
| AM  | fupurge   | u | 475 | 0x1db | default | default |
| AM  | fuomit    | u | 476 | 0x1dc | default | default |
| AM  | fuaux     | u | 477 | 0x1dd | default | default |

## 1.2 UID: 501-1000

| Area | Process   | Type | UID | Hex UID | Exlev   | ATB     |
|------|-----------|------|-----|---------|---------|---------|
| AM   | errport   | u    | 512 | 0x200   | default | default |
| AM   | cia       | u    | 514 | 0x202   | default | default |
| AM   | snabuf    | u    | 514 | 0x202   | default | default |
| AM   | dap       | u    | 515 | 0x203   | default | default |
| AM   | linkreset | u    | 515 | 0x203   | default | default |
| AM   | poker     | u    | 516 | 0x204   | default | default |
| AM   | rts       | u    | 518 | 0x206   | default | default |
| AM   | shlgetty  | u    | 519 | 0x207   | default | default |
| 5e   | HMcftsh   | u    | 520 | 0x208   | default | default |
| AM   | cftshl    | u    | 520 | 0x208   | default | default |
| AM   | cftshlA   | u    | 520 | 0x208   | default | default |
| AM   | csop      | u    | 521 | 0x209   | default | default |
| AM   | msgdump   | u    | 522 | 0x20a   | default | default |
| AM   | sop       | u    | 523 | 0x20b   | default | default |
| AM   | pdfdump   | u    | 524 | 0x20c   | default | default |
| AM   | cdgetty   | u    | 525 | 0x20d   | default | default |
| AM   | splgetty  | u    | 527 | 0x20f   | default | default |
| AM   | inph      | u    | 528 | 0x210   | default | default |
| AM   | msgsh     | u    | 529 | 0x211   | default | default |
| AM   | rex       | u    | 529 | 0x211   | default | default |
| AM   | ccdate3b  | u    | 530 | 0x212   | default | default |
| AM   | dello     | u    | 531 | 0x213   | default | default |
| AM   | oplog     | u    | 532 | 0x214   | default | default |
| AM   | vtpdump   | u    | 533 | 0x215   | default | default |
| AM   | start     | u    | 534 | 0x216   | default | default |
| AM   | TEST      | u    | 535 | 0x217   | default | default |
| AM   | csdip     | u    | 536 | 0x218   | default | default |
| AM   | dpz       | s    | 536 | 0x218   |         | default |
| AM   | fmctrl    | u    | 537 | 0x219   | default | default |
| AM   | ciagetty  | u    | 539 | 0x21b   | default | default |
| AM   | st        | u    | 540 | 0x21c   | default | default |
| AM   | rpttime   | u    | 541 | 0x21d   | default | default |
| AM   | clrseg    | u    | 542 | 0x21e   | default | default |
| AM   | IMCAT     | u    | 543 | 0x21f   | default | default |
| AM   | dlggetty  | u    | 544 | 0x220   | default | default |
| AM   | dlgmain   | u    | 545 | 0x221   | default | default |
| AM   | vfymain   | u    | 546 | 0x222   | default | default |
| AM   | dlgshl    | u    | 547 | 0x223   | default | default |
| AM   | Sdlgsl    | u    | 548 | 0x224   | default | default |
| AM   | CLK       | u    | 550 | 0x226   | default | default |
| AM   | updomdb   | u    | 551 | 0x227   | default | default |
| AM   | clrackdb  | u    | 552 | 0x228   | default | default |
| AM   | banner    | u    | 577 | 0x241   | default | default |
| AM   | binpkill  | u    | 578 | 0x242   | default | default |
| AM   | binpkillp | u    | 579 | 0x243   | default | default |
| AM   | cat       | u    | 581 | 0x245   | default | default |
| AM   | chgrp     | u    | 582 | 0x246   | default | default |
| AM   | chmod     | u    | 583 | 0x247   | default | default |
| AM   | chown     | u    | 584 | 0x248   | default | default |
| AM   | cmp       | u    | 585 | 0x249   | default | default |
| AM   | cpio      | u    | 587 | 0x24b   | default | default |
| AM   | 3bcx      | u    | 588 | 0x24c   | default | default |

|    |           |   |     |       |         |         |
|----|-----------|---|-----|-------|---------|---------|
| AM | cx        | u | 588 | 0x24c | default | default |
| AM | date      | u | 590 | 0x24e | default | default |
| AM | dd        | u | 591 | 0x24f | default | default |
| AM | diff      | u | 592 | 0x250 | default | default |
| AM | dlsu      | u | 593 | 0x251 | default | default |
| AM | du        | u | 594 | 0x252 | default | default |
| AM | echo      | u | 595 | 0x253 | default | default |
| AM | ed        | u | 596 | 0x254 | default | default |
| AM | env       | u | 597 | 0x255 | default | default |
| AM | expr      | u | 598 | 0x256 | default | default |
| AM | falloc    | u | 599 | 0x257 | default | default |
| AM | fgrep     | u | 600 | 0x258 | default | default |
| AM | find      | u | 601 | 0x259 | default | default |
| AM | fmove     | u | 602 | 0x25a | default | default |
| AM | fsz       | u | 603 | 0x25b | default | default |
| AM | grep      | u | 604 | 0x25c | default | default |
| AM | id        | u | 606 | 0x25e | default | default |
| AM | kill      | u | 607 | 0x25f | default | default |
| AM | killp     | u | 608 | 0x260 | default | default |
| AM | line      | u | 611 | 0x263 | default | default |
| AM | ln        | u | 612 | 0x264 | default | default |
| AM | logdir    | u | 613 | 0x265 | default | default |
| AM | ls        | u | 614 | 0x266 | default | default |
| AM | mv        | u | 615 | 0x267 | default | default |
| AM | mail      | u | 616 | 0x268 | default | default |
| AM | makekey   | u | 617 | 0x269 | default | default |
| AM | mesg      | u | 618 | 0x26a | default | default |
| AM | mkdir     | u | 619 | 0x26b | default | default |
| AM | newgrp    | u | 621 | 0x26d | default | default |
| AM | news      | u | 622 | 0x26e | default | default |
| AM | nice      | u | 623 | 0x26f | default | default |
| AM | nohup     | u | 624 | 0x270 | default | default |
| AM | od        | u | 625 | 0x271 | default | default |
| AM | passwd    | u | 626 | 0x272 | default | default |
| AM | pio       | u | 627 | 0x273 | default | default |
| AM | pr        | u | 628 | 0x274 | default | default |
| AM | nusend    | u | 629 | 0x275 | default | default |
| AM | nsctorje  | u | 630 | 0x276 | default | default |
| AM | nscstat   | u | 631 | 0x277 | default | default |
| AM | pwd       | u | 634 | 0x27a | default | default |
| AM | rm        | u | 635 | 0x27b | default | default |
| AM | rmdir     | u | 636 | 0x27c | default | default |
| AM | run       | u | 638 | 0x27e | default | default |
| AM | sdiff     | u | 639 | 0x27f | default | default |
| AM | sleep     | u | 640 | 0x280 | default | default |
| AM | sort      | u | 641 | 0x281 | default | default |
| AM | split     | u | 642 | 0x282 | default | default |
| AM | stat      | u | 643 | 0x283 | default | default |
| AM | stty      | u | 644 | 0x284 | default | default |
| AM | su        | u | 645 | 0x285 | default | default |
| AM | sum       | u | 646 | 0x286 | default | default |
| AM | sync      | u | 648 | 0x288 | default | default |
| AM | tail      | u | 649 | 0x289 | default | default |
| AM | tee       | u | 650 | 0x28a | default | default |
| AM | time      | u | 651 | 0x28b | default | default |
| AM | touch     | u | 652 | 0x28c | default | default |
| AM | tty       | u | 653 | 0x28d | default | default |
| AM | uname     | u | 654 | 0x28e | default | default |
| AM | wc        | u | 655 | 0x28f | default | default |
| AM | who       | u | 656 | 0x290 | default | default |
| AM | write     | u | 657 | 0x291 | default | default |
| AM | sed       | u | 658 | 0x292 | default | default |
| AM | asa       | u | 659 | 0x293 | default | default |
| AM | sh_cpfile | u | 704 | 0x2c0 | default | default |
| AM | mntfs     | u | 705 | 0x2c1 | default | default |
| AM | PDSe      | u | 707 | 0x2c3 | default | default |
| AM | fmmtc     | u | 708 | 0x2c4 | default | default |
| AM | pmdbcopy  | u | 709 | 0x2c5 | default | default |
| AM | pmcrft    | u | 710 | 0x2c6 | default | default |
| AM | pmrcol    | u | 711 | 0x2c7 | default | default |
| AM | pmcrep    | u | 712 | 0x2c8 | default | default |
| AM | pmcrman   | u | 713 | 0x2c9 | default | default |

|    |            |   |     |       |         |         |
|----|------------|---|-----|-------|---------|---------|
| AM | cpsdisk    | u | 714 | 0x2ca | default | default |
| AM | cp_oosf    | u | 715 | 0x2cb | default | default |
| AM | sh_cpspd   | u | 716 | 0x2cc | default | default |
| AM | sh_cpsoosf | u | 717 | 0x2cd | default | default |
| AM | sh_clrptn  | u | 718 | 0x2ce | default | default |
| AM | clearptn   | u | 719 | 0x2cf | default | default |
| AM | urun       | u | 725 | 0x2d5 | default | default |
| AM | 3btpwrt    | u | 726 | 0x2d6 | default | default |
| AM | craftack   | u | 727 | 0x2d7 | default | default |
| AM | craftstop  | u | 728 | 0x2d8 | default | default |
| AM | pds_tp     | u | 729 | 0x2d9 | default | default |
| AM | tpack      | u | 730 | 0x2da | default | default |
| AM | tpstop     | u | 731 | 0x2db | default | default |
| AM | ack        | u | 732 | -x2dc | default | default |
| AM | continue   | u | 732 | 0x2dc | default | default |
| AM | applhook   | u | 733 | 0x2dd | default | default |
| AM | readog     | u | 734 | 0x2de | default | default |
| AM | sh_ack     | u | 735 | 0x2df | default | default |
| AM | sh_cont    | u | 735 | 0x2df | default | default |
| AM | sh_backout | u | 736 | 0x2e0 | default | default |
| AM | sh_commit  | u | 737 | 0x2e1 | default | default |
| 5e | BEGIN      | u | 738 | 0x2e2 | default | default |
| AM | sh_enter   | u | 738 | 0x2e2 | default | default |
| AM | sh_proceed | u | 739 | 0x2e3 | default | default |
| AM | sh_readlog | u | 740 | 0x2e4 | default | default |
| AM | sh_restore | u | 741 | 0x2e5 | default | default |
| AM | sh_stop    | u | 742 | 0x2e6 | default | default |
| AM | stop       | u | 743 | 0x2e7 | default | default |
| AM | commit     | u | 744 | 0x2e8 | default | default |
| AM | mkstart    | u | 745 | 0x2e9 | default | default |
| AM | restore    | u | 745 | 0x2e9 | default | default |
| AM | backout    | u | 746 | 0x2ea | default | default |
| AM | enter      | u | 747 | 0x2eb | default | default |
| AM | proceed    | u | 748 | 0x2ec | default | default |
| AM | prtcp      | u | 749 | 0x2ed | default | default |
| AM | suprint    | u | 750 | 0x2ee | default | default |
| AM | applproc   | u | 751 | 0x2ef | default | default |
| AM | sh_applprc | u | 752 | 0x2f0 | default | default |
| AM | hd         | u | 767 | 0x2ff | default | default |
| AM | loadf3b    | u | 769 | 0x301 | default | default |
| AM | sdfinfo    | u | 770 | 0x302 | default | default |
| AM | psm        | u | 771 | 0x303 | default | default |
| AM | evol       | u | 772 | 0x304 | default | default |
| AM | sdfrel     | u | 772 | 0x304 | default | default |
| AM | transgen   | u | 773 | 0x305 | default | default |
| AM | treebld    | u | 774 | 0x306 | default | default |
| AM | MENU       | u | 775 | 0x307 | default | default |
| AM | SPAWN      | u | 776 | 0x308 | default | default |
| AM | SPAWN      | u | 776 | 0x308 | default | default |
| AM | createecd  | u | 777 | 0x309 | default | default |
| AM | createecd  | u | 777 | 0x309 | default | default |
| AM | rcvecd     | u | 778 | 0x30a | default | default |
| AM | rcvecd     | u | 778 | 0x30a | default | default |
| AM | ducdb      | u | 779 | 0x30b | default | default |
| AM | dump       | u | 780 | 0x30c | default | default |
| AM | fdfdump    | u | 780 | 0x30c | default | default |
| AM | odin       | u | 781 | 0x30d | default | default |
| AM | mcrtr      | u | 782 | 0x30e | default | default |
| AM | comparedb  | u | 783 | 0x30f | default | default |
| AM | fdiff      | u | 794 | 0x310 | default | default |
| AM | keycmp     | u | 785 | 0x311 | default | default |
| AM | keycomm    | u | 786 | 0x312 | default | default |
| AM | keys       | u | 787 | 0x313 | default | default |
| AM | newdb      | u | 788 | 0x314 | default | default |
| AM | printdb    | u | 789 | 0x315 | default | default |
| AM | printfrm   | u | 790 | 0x316 | default | default |
| AM | d2c        | u | 791 | 0x317 | default | default |
| AM | c2d        | u | 792 | 0x318 | default | default |
| AM | d2cb       | u | 793 | 0x319 | default | default |
| AM | c2db       | u | 794 | 0x31a | default | default |
| AM | frmfldnos  | u | 795 | 0x31b | default | default |
| AM | ecd_aux    | u | 796 | 0x31c | default | default |

|    |           |   |     |       |         |         |
|----|-----------|---|-----|-------|---------|---------|
| AM | sg_aux    | u | 797 | 0x31d | default | default |
| AM | DMTECD    | u | 798 | 0x31e | default | default |
| AM | op_ularp  | u | 800 | 0x320 | default | default |
| AM | stop_aud  | u | 802 | 0x322 | default | default |
| AM | alw_aud   | u | 803 | 0x323 | default | default |
| AM | aud       | u | 804 | 0x324 | default | default |
| AM | siof      | u | 805 | 0x325 | default | default |
| AM | inh_aud   | u | 806 | 0x326 | default | default |
| AM | op_aud    | u | 807 | 0x327 | default | default |
| AM | clr_edmp  | u | 810 | 0x32a | default | default |
| AM | op_estat  | u | 811 | 0x32b | default | default |
| AM | op_stat   | u | 812 | 0x32c | default | default |
| AM | op_auderr | u | 813 | 0x32d | default | default |
| AM | uinit     | u | 814 | 0x32e | default | default |
| AM | createsg  | u | 864 | 0x360 | default | default |
| AM | createsg  | u | 864 | 0x360 | default | default |
| AM | rcvsg     | u | 865 | 0x361 | default | default |
| AM | rcvsg     | u | 865 | 0x361 | default | default |
| AM | rcvecdmcr | u | 866 | 0x362 | default | default |
| AM | rcvecdmcr | u | 866 | 0x362 | default | default |
| AM | rcvsgmcr  | u | 867 | 0x363 | default | default |
| AM | rcvsgmcr  | u | 867 | 0x363 | default | default |
| AM | DMTSG     | u | 868 | 0x364 | default | default |
| AM | vfydft    | u | 869 | 0x365 | default | default |
| AM | links     | u | 870 | 0x366 | default | default |
| AM | mhd_pos   | u | 870 | 0x366 | default | default |
| AM | mtadd     | u | 870 | 0x366 | default | default |
| AM | mtcadd    | u | 870 | 0x366 | default | default |
| AM | mtcdel    | u | 870 | 0x366 | default | default |
| AM | mtdel     | u | 870 | 0x366 | default | default |
| AM | scanchg   | u | 870 | 0x366 | default | default |
| AM | sdladd    | u | 870 | 0x366 | default | default |
| AM | sdlcadd   | u | 870 | 0x366 | default | default |
| AM | sdlcdel   | u | 870 | 0x366 | default | default |
| AM | sldel     | u | 870 | 0x366 | default | default |
| AM | slots     | u | 870 | 0x366 | default | default |
| AM | ttyadd    | u | 870 | 0x366 | default | default |
| AM | ttycadd   | u | 870 | 0x366 | default | default |
| AM | ttycdel   | u | 870 | 0x366 | default | default |
| AM | ttydel    | u | 870 | 0x366 | default | default |
| AM | vfydflt   | u | 870 | 0x366 | default | default |
| AM | recovdata | k | 885 | 0x375 | 14      | default |
| AM | pandump   | u | 886 | 0x376 | default | default |
| AM | sndcmd    | u | 887 | 0x377 | default | default |

### 1.3 UID: 1001-1500

| Area | Process    | Type | UID  | Hex UID | Exlev   | ATB     |
|------|------------|------|------|---------|---------|---------|
| 5e   | RCsec      | u    | 1021 | 0x3fd   | default | default |
| 5e   | aim        | u    | 1024 | 0x400   | 13      | default |
| cni  | pcemsw     | k    | 1024 | 0x400   | 10      | 7       |
| AM   | komni      | k    | 1024 | 0x400   | 0x3     | default |
| 5e   | RCmultcol  | u    | 1025 | 0x401   | default | default |
| AM   | somni      | s    | 1025 | 0x401   | default | default |
| AM   | testlink   | u    | 1025 | 0x401   | default | default |
| AM   | uomni      | u    | 1026 | 0x402   | default | default |
| AM   | bxuser     | u    | 1029 | 0x405   | default | default |
| 5e   | plod       | u    | 1030 | 0x406   | default | default |
| AM   | bxkernel   | k    | 1030 | 0x406   | 3       | default |
| 5e   | apdl       | k    | 1031 | 0x407   | 6       | default |
| 5e   | UAxfer     | u    | 1032 | 0x408   | default | default |
| AM   | rder       | u    | 1033 | 0x409   | default | default |
| AM   | wrtter     | u    | 1034 | 0x40a   | default | default |
| AM   | pcrt_rmt   | u    | 1035 | 0x40b   | default | default |
| AM   | sndfile    | u    | 1036 | 0x40c   | default | default |
| 5e   | RCdaemon   | u    | 1037 | 0x40d   | default | default |
| AM   | sndcntl    | u    | 1037 | 0x40d   | default | default |
| 5e   | RCospsmenu | u    | 1038 | 0x40e   | default | default |
| 5e   | DBlnaud    | u    | 1039 | 0x40f   | default | default |
| AM   | unitdata   | u    | 1039 | 0x40f   | default | default |
| 5e   | smkp       | k    | 1040 | 0x410   | 11      | default |

|     |            |   |      |       |         |         |
|-----|------------|---|------|-------|---------|---------|
| 5e  | SMpsm      | u | 1041 | 0x411 | default | default |
| AM  | usharel    | u | 1041 | 0x411 | default | default |
| AM  | ushare2    | u | 1042 | 0x412 | default | default |
| AM  | mores      | u | 1044 | 0x414 | default | default |
| 5e  | CMkp       | k | 1056 | 0x420 | 6       | default |
| AM  | fibb       | k | 1056 | 0x420 | 0x3     | default |
| AM  | ufibb      | u | 1058 | 0x422 | default | default |
| 5e  | cp3bmsgdrv | u | 1072 | 0x430 | default | default |
| 5e  | mskp       | k | 1072 | 0x430 | 10      | default |
| 5e  | DBaudodd   | u | 1073 | 0x431 | default | default |
| AM  | unitkern   | k | 1082 | 0x43a | 3       | default |
| AM  | 2unitkern  | k | 1083 | 0x43b | 3       | default |
| AM  | 2wrtkern   | k | 1084 | 0x43c | 3       | default |
| AM  | sndkern    | k | 1085 | 0x43d | 3       | default |
| AM  | wrtkern    | k | 1085 | 0x43d | 3       | default |
| AM  | 2sndkern   | k | 1086 | 0x43e | 3       | default |
| AM  | rdkern     | k | 1086 | 0x43e | 3       | default |
| AM  | testkern   | k | 1086 | 0x43e | 3       | default |
| AM  | 2testkern  | k | 1087 | 0x43f | 3       | default |
| 5e  | ctspump    | s | 1088 | 0x440 | 0       | default |
| AM  | ignoreconn | u | 1097 | 0x449 | default | default |
| 5e  | RCmaccntl  | u | 1107 | 0x453 | default | default |
| 5e  | RCc_cntl   | u | 1108 | 0x454 | default | default |
| 5e  | okp        | k | 1120 | 0x460 | 8       | 6       |
| 5e  | DGcpsupc   | u | 1135 | 0x46f | default | default |
| 5e  | DGpsup     | u | 1136 | 0x470 | default | default |
| 5e  | cpres      | u | 1138 | 0x472 | default | default |
| 5e  | dmon       | u | 1139 | 0x473 | default | default |
| 5e  | ccsinit    | k | 1145 | 0x479 | 12      | default |
| 5e  | CCringmon  | k | 1146 | 0x47a | 9       | default |
| 5e  | cpdiagc    | u | 1152 | 0x480 | default | default |
| AM  | prob2      | k | 1152 | 0x480 | 0x3     | default |
| AM  | prob1      | u | 1153 | 0x481 | default | default |
| 5e  | rptlpr     | u | 1168 | 0x490 | default | default |
| 5e  | RCtsrpt    | u | 1170 | 0x492 | default | default |
| 5e  | ECap       | u | 1200 | 0x4b0 | default | default |
| 5e  | smswitch   | u | 1203 | 0x4b3 | default | default |
| 5e  | IMSWITCH   | u | 1204 | 0x4b4 | default | default |
| 5e  | UAlgin     | u | 1210 | 0x4ba | default | default |
| 5e  | UAsorry    | u | 1211 | 0x4bb | default | default |
| 5e  | UAcron     | u | 1212 | 0x4bc | default | default |
| 5e  | UAadmin    | u | 1213 | 0x4bd | default | default |
| 5e  | UAlpr      | u | 1214 | 0x4be | default | default |
| 5e  | UActab     | u | 1215 | 0x4bf | default | default |
| 5e  | UAat       | u | 1217 | 0x4c1 | default | default |
| 5e  | UAcompress | u | 1220 | 0x4c4 | default | default |
| cni | npem       | u | 1230 | 0x4ce | default | default |
| cni | npem       | u | 1231 | 0x4cf | default | default |
| cni | lftadm     | u | 1232 | 0x4d0 | default | default |
| cni | pdkey      | u | 1233 | 0x4d1 | default | default |
| cni | op_snat    | u | 1234 | 0x4d2 | default | default |
| cni | mon        | u | 1235 | 0x4d3 | default | default |
| cni | rekey      | u | 1236 | 0x4d4 | default | default |
| cni | rept       | u | 1237 | 0x4d5 | default | default |
| cni | chgsik     | u | 1238 | 0x4d6 | default | default |
| cni | cmncmd     | u | 1238 | 0x4d6 | default | default |
| cni | inhalm     | u | 1239 | 0x4d7 | default | default |
| cni | inhstat    | u | 1240 | 0x4d8 | default | default |
| cni | op_smr     | u | 1241 | 0x4d9 | default | default |
| cni | cnidba     | u | 1242 | 0x4da | default | default |
| cni | cnidbak    | k | 1243 | 0x4db | 11      | default |
| cni | display    | u | 1244 | 0x4dc | default | default |
| cni | lcdver     | u | 1245 | 0x4dd | default | default |
| cni | pxlcreat   | u | 1246 | 0x4de | default | default |
| cni | slkasgen   | u | 1247 | 0x4df | default | default |
| cni | slkver     | u | 1248 | 0x4e0 | default | default |
| cni | clurc      | u | 1249 | 0x4e1 | default | default |
| cni | cluver     | u | 1250 | 0x4e2 | default | default |
| cni | 3bdemo     | u | 1251 | 0x4e3 | default | default |
| cni | cnictl     | k | 1252 | 0x4e4 | 11      | 7       |
| cni | cMcehdlr   | u | 1253 | 0x4e5 | 4       | default |
| cni | msgrcv     | u | 1254 | 0x4e6 | default | default |

|     |            |   |      |       |         |         |
|-----|------------|---|------|-------|---------|---------|
| cni | setslk     | u | 1255 | 0x4e7 | default | default |
| cni | cMinit     | u | 1256 | 0x4e8 | default | default |
| cni | cMrcv      | u | 1257 | 0x4e9 | default | default |
| cni | cMrcvk     | k | 1258 | 0x4ea | 5       | default |
| cni | inhlnrmv   | u | 1259 | 0x4eb | default | default |
| cni | badcnidata | u | 1260 | 0x4ec | default | default |
| cni | sw_clock   | u | 1261 | 0x4ed | default | default |
| cni | AMSNPR2T   | u | 1262 | 0x4ee | default | default |
| cni | prhist     | u | 1263 | 0x4ef | default | default |
| cni | AM30MPR    | u | 1264 | 0x4f0 | default | default |
| cni | AMMPR      | u | 1265 | 0x4f1 | default | default |
| cni | AMSEPR     | u | 1266 | 0x4f2 | default | default |
| cni | AMSNPR1    | u | 1267 | 0x4f3 | default | default |
| cni | AMSNPR2    | u | 1268 | 0x4f4 | default | default |
| cni | CMNFDISK   | u | 1269 | 0x4f5 | default | default |
| cni | CMNFDISKEX | u | 1270 | 0x4f6 | default | default |
| cni | CMNFLPM    | u | 1271 | 0x4f7 | default | default |
| cni | CMNFLPMEX  | u | 1272 | 0x4f8 | default | default |
| cni | CMRINGEX   | u | 1273 | 0x4f9 | default | default |
| cni | cMmsadm    | k | 1274 | 0x4fa | 3       | default |
| cni | prlpm      | u | 1275 | 0x4fb | default | default |
| cni | cMmsdp     | u | 1276 | 0x4fc | default | default |
| cni | slmshr     | u | 1277 | 0x4fd | default | default |
| cni | slmkm      | k | 1279 | 0x4ff | 7       | 7       |
| cni | slmtime    | u | 1281 | 0x501 | default | default |
| cni | c7demo     | u | 1282 | 0x502 | default | default |
| cni | c7sleep    | u | 1283 | 0x503 | default | default |
| cni | clucreat   | u | 1284 | 0x504 | default | default |
| cni | nidata     | u | 1285 | 0x505 | default | default |
| cni | lknode     | u | 1286 | 0x506 | default | default |
| cni | sstbcreat  | u | 1287 | 0x507 | default | default |
| cni | sstblver   | u | 1288 | 0x508 | default | default |
| cni | sstblrc    | u | 1289 | 0x509 | default | default |
| cni | inhprt     | u | 1291 | 0x50b | default | default |
| cni | msgsend    | u | 1292 | 0x50c | default | default |
| cni | ssdiskver  | u | 1293 | 0x50d | default | default |
| cni | dump_smeas | u | 1294 | 0x50e | default | default |
| cni | prelcreat  | u | 1295 | 0x50f | default | default |
| cni | prelver    | u | 1296 | 0x510 | default | default |
| cni | prelrc     | u | 1297 | 0x511 | default | default |
| cni | sltchk     | u | 1298 | 0x512 | default | default |
| cni | g2Indc     | u | 1299 | 0x513 | default | default |
| cni | cnidbretro | u | 1304 | 0x518 | default | default |
| 5e  | ECw4       | u | 1328 | 0x530 | default | default |
| 5e  | ECr4       | u | 1329 | 0x531 | default | default |
| 5e  | ECw3       | u | 1330 | 0x532 | default | default |
| 5e  | ECr3       | u | 1331 | 0x533 | default | default |
| 5e  | HMaln      | u | 1344 | 0x540 | default | default |
| 5e  | HMlogmap   | u | 1345 | 0x541 | default | default |
| 5e  | cmon       | u | 1365 | 0x555 | default | default |
| 5e  | HMmesgx    | u | 1366 | 0x556 | default | default |
| 5e  | HMpokex    | u | 1367 | 0x557 | default | default |
| 5e  | HMmcc      | u | 1376 | 0x560 | default | default |
| 5e  | HMsip      | u | 1392 | 0x570 | default | default |
| 5e  | RCfmsys    | u | 1398 | 0x576 | default | default |
| 5e  | RCfmterm   | u | 1399 | 0x577 | default | default |
| 5e  | SLoffn     | u | 1400 | 0x578 | default | default |
| 5e  | DBacced    | u | 1408 | 0x580 | default | default |
| 5e  | DBedpkg    | u | 1408 | 0x580 | default | default |
| 5e  | DBcpbk     | u | 1410 | 0x582 | 12      | default |
| 5e  | pmkp       | k | 1411 | 0x583 | 12      | default |
| 5e  | plop       | k | 1424 | 0x590 | default | default |
| 5e  | DBimbk     | u | 1430 | 0x596 | default | default |
| 5e  | Slrcbk     | u | 1431 | 0x597 | default | default |
| 5e  | DBbkc      | u | 1432 | 0x598 | default | default |
| 5e  | DBlgir     | u | 1433 | 0x599 | default | default |
| 5e  | RCunx      | u | 1456 | 0x5b0 | default | default |
| 5e  | RCmcc      | u | 1457 | 0x5b1 | default | default |
| 5e  | RCrmas     | u | 1458 | 0x5b2 | default | default |
| 5e  | SMaprts    | u | 1472 | 0x5c0 | default | default |
| 5e  | SMiiu      | u | 1489 | 0x5d1 | default | default |

## 1.4 UID: 1501-2000

| Area | Process    | Type | UID  | Hex UID | Exlev   | ATB     |
|------|------------|------|------|---------|---------|---------|
| 5e   | MLrd       | u    | 1530 | 0x5fa   | default | default |
| 5e   | MLwr       | u    | 1531 | 0x5fb   | default | default |
| 5e   | CCpgeupdt  | u    | 1533 | 0x5fd   | default | default |
| 5e   | teraux     | u    | 1537 | 0x601   | default | default |
| 5e   | MMifshdlr  | u    | 1543 | 0x607   | default | default |
| 5e   | format     | u    | 1544 | 0x608   | default | default |
| 5e   | dskwrite   | u    | 1545 | 0x609   | default | default |
| 5e   | MMscrfmt   | u    | 1546 | 0x60a   | default | default |
| 5e   | MMccvfmt   | u    | 1547 | 0x60b   | default | default |
| 5e   | MMrecfmt   | u    | 1547 | 0x60b   | default | default |
| 5e   | UPdisplay  | u    | 1597 | 0x63d   | default | default |
| 5e   | UPparser   | u    | 1598 | 0x63e   | default | default |
| 5e   | UPpoc      | u    | 1599 | 0x63f   | default | default |
| 5e   | UPdispatch | u    | 1600 | 0x640   | default | default |
| 5e   | fsinit     | u    | 1604 | 0c644   | default | default |
| 5e   | UTcp3b     | u    | 1648 | 0x670   | default | default |
| 5e   | WEIrmmain  | u    | 1649 | 0x671   | default | default |
| 5e   | WEIsmain   | u    | 1650 | 0x672   | default | default |
| cni  | imsdrv     | k    | 1651 | 0x673   | 10      | 7       |
| cni  | npp        | u    | 1652 | 0x674   | default | default |
| cni  | rmv        | u    | 1653 | 0x675   | default | default |
| cni  | diag       | u    | 1654 | 0x676   | default | default |
| cni  | cfr        | u    | 1655 | 0x677   | default | default |
| cni  | opring     | u    | 1656 | 0x678   | default | default |
| cni  | imsrts     | u    | 1657 | 0x679   | default | default |
| cni  | msdc       | k    | 1658 | 0x67a   | 6       | default |
| cni  | alw        | u    | 1659 | 0x67b   | default | default |
| cni  | set        | u    | 1660 | 0x67c   | default | default |
| cni  | op         | u    | 1661 | 0x67d   | default | default |
| cni  | inh        | u    | 1662 | 0x67e   | default | default |
| cni  | tdcp       | u    | 1663 | 0x67f   | default | default |
| cni  | tdtp       | k    | 1664 | 0x680   | 11      | default |
| cni  | op_rtm     | u    | 1665 | 0x681   | 5       | default |
| cni  | pgmon      | u    | 1667 | 0x683   | default | default |
| cni  | pong       | u    | 1669 | 0x685   | default | default |
| cni  | im_lpmpr   | u    | 1671 | 0x687   | default | default |
| cni  | drvst      | u    | 1678 | 0x68e   | default | default |
| cni  | traf_wr    | u    | 1686 | 0x696   | default | default |
| cni  | traf_rd    | u    | 1687 | 0x697   | default | default |
| cni  | trafmon    | u    | 1688 | 0x698   | default | default |
| cni  | nrinh      | u    | 1689 | 0x699   | default | default |
| cni  | opnmem     | u    | 1691 | 0x69b   | default | default |
| cni  | naudinh    | u    | 1692 | 0x69c   | default | default |
| cni  | pioinh     | u    | 1693 | 0x69d   | default | default |
| cni  | 3bmon      | u    | 1694 | 0x69e   | default | default |
| cni  | rpcckinh   | u    | 1696 | 0x6a0   | default | default |
| cni  | pri_genid  | u    | 1697 | 0x6a1   | default | default |
| 5e   | SImon      | u    | 1727 | 0x6bf   | default | default |
| 5e   | HMibld     | u    | 1729 | 0x6c1   | default | default |
| 5e   | HMiread    | u    | 1730 | 0x6c2   | default | default |
| 5e   | HMtime     | u    | 1731 | 0x6c3   | default | default |
| 5e   | UPdskdspch | u    | 1744 | 0x6d0   | default | default |
| 5e   | UPaudrqst  | u    | 1760 | 0x6e0   | default | default |
| 5e   | UPsetind   | u    | 1761 | 0x6e1   | default | default |
| 5e   | UPrbt      | u    | 1765 | 0x6e5   | default | default |
| 5e   | DBunxbk    | u    | 1792 | 0x700   | default | default |
| AM   | apports    | u    | 1792 | 0x700   | default | default |
| 5e   | DBunxgrw   | u    | 1793 | 0x701   | default | default |
| AM   | file_mk    | u    | 1793 | 0x701   | default | default |
| 5e   | DBautoevol | u    | 1794 | 0x702   | default | default |
| AM   | getstat    | u    | 1794 | 0x702   | default | default |
| 5e   | DBcnvt     | u    | 1795 | 0x703   | default | default |
| AM   | kilport    | u    | 1795 | 0x703   | default | default |
| 5e   | DBcrcflush | u    | 1796 | 0x704   | default | default |
| AM   | Inkdemo    | u    | 1796 | 0x704   | default | default |
| AM   | Inktr      | u    | 1796 | 0x704   | default | default |
| 5e   | DBsetevol  | u    | 1797 | 0x705   | default | default |
| AM   | Inkdemo2   | u    | 1797 | 0x705   | default | default |



|    |           |   |      |       |         |         |
|----|-----------|---|------|-------|---------|---------|
| AM | Inkw      | u | 1797 | 0x705 | default | default |
| AM | mk_file   | u | 1798 | 0x706 | default | default |
| AM | x25send   | u | 1798 | 0x706 | default | default |
| AM | mkvtoc    | u | 1799 | 0x707 | default | default |
| AM | x25listen | u | 1799 | 0x707 | default | default |
| AM | pdscmd    | u | 1800 | 0x708 | default | default |
| AM | pdshl     | u | 1801 | 0x709 | default | default |
| AM | rd_proc   | u | 1802 | 0x70a | default | default |
| AM | sevent    | u | 1803 | 0x70b | default | default |
| AM | sfault    | u | 1803 | 0x70b | default | default |
| AM | sndspl    | u | 1804 | 0x70c | default | default |
| AM | spds      | u | 1805 | 0x70d | default | default |
| AM | todec     | u | 1806 | 0x70e | default | default |
| AM | tohex     | u | 1807 | 0x70f | default | default |
| 5e | SMdimp    | u | 1808 | 0x710 | default | default |
| AM | usrmem    | u | 1809 | 0x711 | default | default |
| AM | upasrw    | u | 1817 | 0x719 | default | default |
| AM | kpasrw    | k | 1818 | 0x71a | SETEX   | 5       |
| AM | rddfc     | k | 1818 | 0x71a | 11      | default |
| AM | ttysoak   | u | 1820 | 0x71c | default | default |
| AM | tpsoak    | u | 1821 | 0x71d | default | default |
| AM | getmemk   | k | 1822 | 0x71e | WPSW    | default |
| AM | msgld     | k | 1823 | 0x71f | WPSW    | 4efault |
| AM | gpsoak    | k | 1824 | 0x720 | SETEX   | default |
| AM | soak5     | k | 1825 | 0x721 |         | 5       |
| AM | soak11    | k | 1826 | 0x722 |         | default |
| AM | siskload2 | k | 1827 | 0x723 | 8       | default |
| AM | diskload0 | k | 1828 | 0x724 | 8       | default |
| AM | usrdsk    | u | 1829 | 0x725 | default | default |
| AM | diskload3 | k | 1830 | 0x726 | 9       | default |
| AM | diskload4 | k | 1831 | 0x727 | 9       | default |
| AM | kpdie     | k | 1832 | 0x728 |         | 6       |
| AM | spdie     | s | 1833 | 0x729 | 0       | 7       |
| AM | Ink       | u | 1834 | 0x72a | default | default |
| AM | Inkrd     | u | 1835 | 0x72b | default | default |
| AM | Inkwt     | u | 1836 | 0x72c | default | default |
| AM | usrdrv    | u | 1837 | 0x72d | default | default |
| AM | bigkp     | k | 1838 | 0x72e |         | 5       |
| AM | memsoak   | u | 1839 | 0x72f | default | default |
| 5e | SMstout   | u | 1840 | 0x730 | default | default |
| AM | aim       | k | 1840 | 0x730 | 13      | 6       |
| AM | tuner     | u | 1841 | 0x731 | default | default |
| AM | rdd       | u | 1843 | 0x733 | default | default |
| AM | anal      | u | 1844 | 0x734 | default | default |
| 5e | DBlgc     | u | 1856 | 0x740 | default | default |
| AM | ttyrd     | u | 1856 | 0x740 | default | default |
| AM | ttywt     | u | 1857 | 0x741 | default | default |
| AM | crnod     | u | 1858 | 0x742 | default | default |
| AM | kphaser   | k | 1862 | 0x746 |         | 6       |
| 5e | DBlgar    | u | 1872 | 0x750 | default | default |
| AM | synnm     | u | 1872 | 0x750 | default | default |
| 5e | DBlgl     | u | 1888 | 0x760 | default | default |
| 5e | DBlgcrc   | u | 1889 | 0x761 | default | default |
| AM | stdem     | u | 1896 | 0x768 | default | default |
| AM | demo      | u | 1897 | 0x769 | default | default |
| AM | stlnk     | u | 1897 | 0x769 | default | default |
| 5e | HMimst    | u | 1904 | 0x770 | default | default |
| AM | fupdate   | k | 1904 | 0x770 | 3       | default |
| AM | pgsplit   | u | 1905 | 0x771 | default | default |
| 5e | TMattsret | u | 1908 | 0x774 | default | default |
| AM | msgdmp    | u | 1915 | 0x77b | default | default |
| 5e | ECr5      | u | 1920 | 0x780 | default | default |
| AM | dskwrt    | u | 1920 | 0x780 | default | default |
| 5e | ECr6      | u | 1921 | 0x781 | default | default |
| 5e | ECw5      | u | 1936 | 0x790 | default | default |
| 5e | ECw6      | u | 1937 | 0x791 | default | default |
| AM | pst       | u | 1941 | 0x795 | default | default |
| 5e | RCtext    | u | 1963 | 0x7ab | default | default |
| 5e | UPpctl    | u | 1963 | 0x7ab | default | default |
| 5e | UPpupci   | u | 1964 | 0x7ac | default | default |
| 5e | AMrex     | u | 1987 | 0x7c3 | default | default |
| 5e | AMvtapeic | u | 1988 | 0x7c4 | default | default |

|    |            |   |      |       |         |         |
|----|------------|---|------|-------|---------|---------|
| 5e | AMtapeic   | u | 1989 | 0x7c5 | default | default |
| 5e | AMsstrm    | u | 1990 | 0x7c6 | default | default |
| 5e | AMscnfg    | u | 1991 | 0x7c7 | default | default |
| 5e | AMreminder | u | 1992 | 0x7c8 | default | default |
| 5e | AMostrm    | u | 1993 | 0x7c9 | default | default |
| 5e | AMocnfg    | u | 1994 | 0x7ca | default | default |
| 5e | AMnullcf   | u | 1995 | 0x7cb | default | default |
| 5e | AMmonic    | u | 1996 | 0x7cc | default | default |
| 5e | AMftpic    | u | 1997 | 0x7cd | default | default |
| 5e | AMdwic     | k | 1998 | 0x7ce | 9       | default |
| 5e | AMc init   | u | 1999 | 0x7cf | default | default |
| 5e | AMdumpmp   | u | 1999 | 0x7cf | default | default |
| 5e | AMabt      | u | 2000 | 0x7d0 | default | default |

### 1.5 UID: 2001-2100

| Area | Process   | Type | UID  | Hex UID | Exlev   | ATB     |
|------|-----------|------|------|---------|---------|---------|
| 5e   | AMcfile   | u    | 2001 | 0x7d1   | default | default |
| 5e   | AMals     | u    | 2002 | 0x7d2   | default | default |
| 5e   | AMalt     | u    | 2003 | 0x7d3   | default | default |
| 5e   | AMinhs    | u    | 2004 | 0x7d4   | default | default |
| 5e   | AMinht    | u    | 2005 | 0x7d5   | default | default |
| 5e   | AModisk   | u    | 2006 | 0x7d6   | default | default |
| 5e   | AMoses    | u    | 2007 | 0x7d7   | default | default |
| 5e   | AMoptp    | u    | 2008 | 0x7d8   | default | default |
| 5e   | AMsf      | u    | 2009 | 0x7d9   | default | default |
| 5e   | AMst      | u    | 2010 | 0x7da   | default | default |
| 5e   | AMvt      | u    | 2011 | 0x7db   | default | default |
| 5e   | AMwt      | u    | 2012 | 0x7dc   | default | default |
| 5e   | AMdwoc    | k    | 2013 | 0x7dd   | 9       | default |
| 5e   | AMftpoc   | u    | 2014 | 0x7de   | default | default |
| 5e   | AMmonoc   | u    | 2015 | 0x7df   | default | default |
| 5e   | AMtapeoc  | u    | 2016 | 0x7e0   | default | default |
| 5e   | AMvtapeoc | u    | 2017 | 0x7e1   | default | default |
| 5e   | RCbch     | u    | 2020 | 0x7e4   | default | default |
| 5e   | RCbchwk   | u    | 2021 | 0x7e5   | default | default |
| AM   | fm_perf   | k    | 2021 | 0x7e5   | SETEX   | default |
| 5e   | RCofr     | u    | 2026 | 0x7ea   | default | default |
| 5e   | RCofrpt   | u    | 2027 | 0x7e    | default | default |
| AM   | sndmsg    | u    | 2027 | 0x7eb   | default | default |
| 5e   | repgen    | u    | 2028 | 0x7ec   | default | default |
| 5e   | CTrd      | u    | 2030 | 0x7ee   | default | default |
| 5e   | CTwr      | u    | 2031 | 0x7ef   | default | default |
| 5e   | RCcnvt    | u    | 2033 | 0x7f1   | default | default |
| 5e   | SUeceiver | u    | 2040 | 0x7f8   | default | default |
| 5e   | SUeccopy  | u    | 2041 | 0x7f9   | default | default |
| 5e   | applhook  | u    | 2041 | 0x7f9   | default | default |
| 5e   | mop       | u    | 2042 | 0x7fa   | default | default |
| 5e   | rcvrop    | u    | 2043 | 0x7fb   | default | default |
| 5e   | coflsb    | u    | 2044 | 0x7fc   | default | default |
| 5e   | parchk    | u    | 2045 | 0x7fd   | default | default |

## 5. Acronyms

**ACRONYM-LIST****Software Release:** 5E10 and later**1. LIST**

|         |                                                                  |
|---------|------------------------------------------------------------------|
| ACT     | = Active                                                         |
| ACT_FRC | = Active-Forced                                                  |
| ADDR    | = Address                                                        |
| ADP     | = Automatic Diagnostic Process                                   |
| AIM     | = Application Integrity Monitor                                  |
| AM      | = Administrative Module                                          |
| AMA     | = Automatic Message Accounting                                   |
| AMDW    | = Automatic Message Accounting (AMA) Disk Writer Kernel Process  |
| AP      | = Application Processor or Array Point                           |
| AUD     | = Audit                                                          |
| BBOOT   | = Big Boot                                                       |
| BCKP    | = Booked Call Kernel Process                                     |
| BIC     | = Bus Interface Controller                                       |
| BTDB    | = Boot Time Database                                             |
| BXSLH   | = BX Session Layer CCITT Handlers                                |
| CAD     | = Configuration Administration Process in SMKP                   |
| CAR     | = Channel Address Register                                       |
| CC      | = Central Control                                                |
| CCIO    | = Central Control Input/Output                                   |
| CCIS    | = Common Channel Interoffice Signaling                           |
| CCITT   | = The International Telegraph & Telephone Consultative Committee |
| CCITT7  | = The present international standard for CCS                     |
| CCS     | = Common Channel Signaling                                       |
| CCSINIT | = Toll CCS Initialization Kernel Process                         |
| CCSR    | = Completed Call Storage and Retrieval                           |
| CDR     | = Channel Data Register                                          |

|         |                                                     |
|---------|-----------------------------------------------------|
| CFR     | = Common File Reader                                |
| CIH     | = Craft (operator) interface handler                |
| CLCON   | = Communication Link Configuration Process in SMKP  |
| CLNK    | = Communication Link                                |
| CM      | = Communication Module                              |
| CMGR    | = Capability Manager                                |
| CMKP    | = Communications Kernel Process                     |
| CNI     | = Common Network Interface                          |
| CNIDBAK | = CNI Main Memory Update Kernel Process             |
| CNIINIT | = CNI Initialization Kernel Process                 |
| CP      | = Call Processing or Central Processor              |
| CPH     | = Communication Protocol Handler                    |
| CPI     | = Central Processor Intervention                    |
| CPU     | = Central Processing Unit                           |
| CRT     | = Cathode Ray Tube                                  |
| CSOP    | = Craft (operator) Spooler Process                  |
| CU      | = Control Unit                                      |
| DAP     | = Display Administration Process                    |
| DCT     | = Dispatcher Control Table                          |
| DCTE    | = Dispatcher Control Table Entry                    |
| DD      | = Data Delivery                                     |
| DDSBS   | = Duplex Dual Serial Bus Selector                   |
| DFC     | = Disk File Controller                              |
| DIO     | = Direct Memory Access Input/Output Bus             |
| DIOP    | = Disk Independent Operation                        |
| DKDRV   | = Disk Driver                                       |
| DLI     | = Dual Link Interface                               |
| DLICON  | = Dual Link Interface Configuration Process in SMKP |
| DLM     | = Disk Limp Mode (now called "DIOP")                |
| DMA     | = Direct Memory Access                              |

|        |                                                       |
|--------|-------------------------------------------------------|
| DMAC   | = Direct Memory Access Controller                     |
| DMAM   | = Deferred Maintenance Administrator Monitor          |
| DMERT  | = Duplex Multi-Environment Real Time Operating System |
| DODD   | = Disk Office Dependent Data                          |
| DPC    | = Destination Point Code                              |
| DSCH   | = Dual Serial Channel                                 |
| DTR    | = Data Terminal Ready                                 |
| DUI    | = Direct User Interface Unit                          |
| DUIC   | = Direct User Interface Controller                    |
| DUIH   | = Direct User Interface Handler                       |
| DUP    | = Data User Part                                      |
| EAI    | = Emergency Action Interface                          |
| ECD    | = Equipment Configuration Database                    |
| ECDLIB | = Equipment Configuration Database Library            |
| EIH    | = Error Interrupt Handler Kernel Process              |
| EOD    | = End of Data                                         |
| ER     | = Error Register                                      |
| FI     | = Facility Interface                                  |
| FIFO   | = First-In First-Out                                  |
| FMGR   | = File Manager Kernel Process                         |
| FPC    | = Foundation Peripheral Controller (CM sub-device)    |
| FPI    | = Full Process Initialization                         |
| FR     | = Fault Recovery                                      |
| HDB    | = Hole Descriptor Blocks                              |
| HM     | = Human/Machine Interface Subsystem                   |
| HSR    | = Hardware Status Register                            |
| HW     | = Hardware                                            |
| ICON   | = Initialization Control process in SMKP              |
| ID     | = Identification or Identifier                        |

|           |                                                            |
|-----------|------------------------------------------------------------|
| IFB       | = Inter-Frame Buffer (CNI Ring sub-device)                 |
| IFRS      | = Initialization Fault Recovery Strategies Process in SMKP |
| IM        | = Integrity Monitor                                        |
| IMS       | = Interprocessor Message Switch                            |
| IMSDRV    | = IMS Driver Kernel Process                                |
| INSEQSTFL | = Initialization Sequence State Failed or Timed Out        |
| I/O       | = Input/Output                                             |
| IODRV     | = Input/Output Driver Kernel Process                       |
| IOP       | = Input/Output Processor (DSCH device)                     |
| IS        | = Interrupt Set                                            |
| ISC       | = Initialization Sequence Control                          |
| ISR       | = Interrupt Set Register                                   |
| IVEC      | = Interrupt Vector Information                             |
| KBOOT     | = Kernel Boot                                              |
| KDAPDRV   | = Kernel Display Application Driver                        |
| KLMON     | = Kernel Lockout Monitor Kernel Process                    |
| KOST      | = Kernel Operating System Trap                             |
| KPCB      | = Kernel Process Control Block                             |
| LBOOT     | = Little Boot                                              |
| LDFT      | = Load Disk From Tape                                      |
| MAS       | = Main Store                                               |
| MASC      | = Main Store Controller                                    |
| MCB       | = Message Control Block (OSDS resource)                    |
| MCC       | = Maintenance Control Center                               |
| MCRT      | = Maintenance Cathode Ray Tube                             |
| MHD       | = Moving Head Disk                                         |
| MI        | = Message Interface (CM sub-device)                        |
| MINMODE   | = Minimum Mode                                             |
| MMGR      | = Memory Manager                                           |
| MMP       | = Module Message Processor (CM sub-device)                 |

|        |                                                    |
|--------|----------------------------------------------------|
| MRF    | = Maintenance Reset Function                       |
| MSCU   | = Message Switch Control Unit                      |
| MSGs   | = Message Switch                                   |
| MSKP   | = Message Switch Kernel Process                    |
| MT     | = Magnetic Tape Unit                               |
| MTC    | = Magnetic Tape Controller                         |
| MTCE   | = Maintenance                                      |
| MTH    | = Magnetic Tape Handler                            |
| MTTY   | = Maintenance Teletypewriter                       |
| MTTYC  | = Maintenance Teletypewriter Controller            |
| MTTYPC | = Maintenance Teletypewriter Peripheral Controller |
| MVB    | = Move Blocks of Memory                            |
| NCCON  | = Network Clock Configuration Process in SMKP      |
| NC     | = Non-critical                                     |
| NCLK   | = Network Clock                                    |
| NDLM   | = No Disk Limp Mode (Now called "No DIOP")         |
| NP     | = Node Processor (of CNI/IMS)                      |
| NPH    | = Network Protocol Handler                         |
| NSC    | = Network Service Complex                          |
| ODD    | = Office Dependent Data                            |
| OKP    | = Operational Kernel Process                       |
| ONTC   | = Office Network and Timing Complex                |
| OOS    | = Out-Of-Service                                   |
| OP_RTM | = IMS Real Time Monitor Kernel Process             |
| OSDS   | = Operating System for Distributed Switching       |
| OSPS   | = Operator Services Position System                |
| OST    | = Operating System Trap                            |
| PA     | = Program Address                                  |
| PBI    | = Peripheral Bus Interface                         |



|         |                                                |
|---------|------------------------------------------------|
| PC      | = Peripheral Controller                        |
| PCB     | = Process Control Block (OSDS resource)        |
| PCD     | = Peripheral Configuration Database            |
| PCP     | = Process Control Process                      |
| PCSD    | = Peripheral Controller Subdevices             |
| PDE     | = Page Descriptor Entry                        |
| PDT     | = Page Descriptor Table                        |
| PECC    | = Product Engineering Control Center           |
| PIC     | = Peripheral Interrupt Controller              |
| PINIT   | = Processor Initialization                     |
| PIO     | = Peripheral Input/Output                      |
| PML     | = Plant Measurement Library                    |
| PLOD    | = Process for Loading ODD onto Disk            |
| PLOP    | = Process for Loading ODD into PAS             |
| PMGR    | = Process Manager                              |
| PMKP    | = Partition Mounting Kernel Process            |
| PP      | = Pulse Point                                  |
| PPC     | = Pump Peripheral Controller (a CM sub-device) |
| PRM     | = Processor Recovery Message                   |
| PROM    | = Programmable Read-Only Memory                |
| PSW     | = Program Store Word                           |
| PUCR    | = Pump Control                                 |
| RAC     | = Ring Access Controller                       |
| RAM     | = Random Access Memory                         |
| RC      | = Recent Change                                |
| RCKP    | = Recent Change Kernel Process                 |
| RCRF    | = Recent Change Roll Forward                   |
| RI      | = Ring Interface                               |
| RID     | = Record Identifier                            |
| RINGMON | = CNI Ring Monitor Kernel Process              |

|         |                                                             |
|---------|-------------------------------------------------------------|
| RLKP    | = Retrieval Link Kernel Process                             |
| ROM     | = Read Only Memory                                          |
| ROP     | = Receive-Only Printer                                      |
| RPC     | = Ring Peripheral Controller                                |
| RPCN    | = RPC Node                                                  |
| RST     | = Restore                                                   |
| RTR     | = Real Time Reliable                                        |
| RTS     | = Real-Time Status Process                                  |
| RTX     | = Real Time Executive Operating System (for CNI NP)         |
| SAS     | = Stop And Switch                                           |
| SCB     | = Stack Control Block                                       |
| SCC     | = Switching Control Center                                  |
| SCH     | = Serial Channel                                            |
| SCSDC   | = Synchronous Signal Distributor Controller                 |
| SCSDH   | = Scan and Signal Distributor Handler                       |
| SCSI    | = Small Computer System Interface                           |
| SDE     | = Segment Descriptor Entry                                  |
| SDL     | = Synchronous Data Link Unit                                |
| SDLH    | = Synchronous Data Link Unit Handler                        |
| SG      | = System Generation Data Base                               |
| SI      | = System Integrity                                          |
| SICO    | = System Integrity Control                                  |
| SIM     | = System Integrity Monitor Kernel Process                   |
| SMD     | = Storage Module Device                                     |
| SIULARP | = RTR Operating System User Level Automatic Restart Process |
| SLMK    | = Signaling Link Monitor Kernel Process                     |
| SLMSHR  | = CNI Link Data Administrative Process                      |
| SLMTIME | = CNI Timing Process                                        |
| SM      | = Switch Maintenance or Switch Module                       |

|        |                                                                       |
|--------|-----------------------------------------------------------------------|
| SMARS  | = Switch Maintenance Analysis and Recovery Strategies Process in SMKP |
| SMC    | = Switching Module Control                                            |
| SMDIMP | = Switch Maintenance Diagnostic Input Message Processor               |
| SMER   | = Switch Maintenance Error Recognition Process in SMKP                |
| SMICO  | = Switch Maintenance System Integrity Control                         |
| SMKP   | = Switch Maintenance Kernel Process                                   |
| SMPSM  | = Switch Maintenance Power Switch Monitor                             |
| SPP    | = Single Process Purge                                                |
| SSR    | = System Status Register                                              |
| STBY   | = Standby                                                             |
| SU     | = Software Update                                                     |
| SW     | = Software                                                            |
| SYSGEN | = System Generation                                                   |
| TCB    | = Timing Control Block (OSDS Resource)                                |
| TDTP   | = IMS Trace Driver Kernel Process                                     |
| TMS    | = Time Multiplex Switch                                               |
| TMSCON | = Time Multiplex Switch Configuration Process in SMKP                 |
| TOP    | = Tape-Only Program                                                   |
| TTL    | = Transistor/transistor Logic                                         |
| TTY    | = Teletypewriter                                                      |
| TU     | = Tape Unit                                                           |
| TYP    | = Type                                                                |
| UCB    | = Unit Control Block                                                  |
| UCL    | = Unconditional                                                       |
| UID    | = Utility Identifier                                                  |
| ULARP  | = User Level Automatic Restart Process                                |
| UMGR   | = Utility Manager                                                     |
| VCP    | = Volume Copy                                                         |
| VLMM   | = Very Large Main Memory                                              |
| VTOC   | = Volume Table of Contents                                            |



## **6. PRM Messages**

**0000-0000 — E2xx-FFFF**

**PRM:0000-0000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p 0000 0000 0000 0000 hh hh hh

**2. PRM SOURCE**

3B20D central control (CC) diagnostic phases 61 and 93, or 3B21D CC diagnostic phases 64 and 65.

**3. FUNCTION**

Diagnostic test.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

h = Any hexadecimal number.

**5. EXPLANATION**

The off-line processor produces PRMs during CC diagnostics (regular phase 61 and demand phase 93). This PRM is one in a sequence of PRMs output during the CC diagnostic. More detailed information about these PRMs is given in the Corrective Maintenance manual, 235-105-220.

**6. CORRECTIVE ACTION**

None. This is not a problem condition. Disregard this PRM.

**NOTE:** Also disregard the one or two PRMs preceding this pattern if they have a D or F in position 15.

**PRM:0123-4567****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p 0123 4567 89AB CDEF hh hh hh

**2. PRM SOURCE**

3B20D central control (CC) diagnostic Phases 61 and 93, or 3B21D CC diagnostic phases 64 and 65.

**3. FUNCTION**

Diagnostic test.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

h = Any hexadecimal number.

**5. EXPLANATION**

The off-line processor produces PRMs during CC diagnostics (regular phase 61 and demand phase 93). This PRM is one in a sequence of PRMs output during the CC diagnostic. More detailed information about these PRMs is given in the Corrective Maintenance manual, 235-105-220.

**6. CORRECTIVE ACTION**

None. This is not a problem condition. Disregard this PRM.

**NOTE:** Also disregard the one or two PRMs preceding this pattern if they have a D or F in position 15.

**PRM:1111-1111****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p 1111 1111 1111 1111 hh hh hh

**2. PRM SOURCE**

3B20D central control (CC) diagnostic phase 93 or 3B21D CC diagnostic phase 65.

**3. FUNCTION**

Diagnostic test.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

h = Any hexadecimal number.

**5. EXPLANATION**

The off-line processor produces PRMs during CC diagnostics. This PRM is one in a sequence of PRMs output during the CC diagnostic. More detailed information about these PRMs is given in the Corrective Maintenance manual, 235-105-220.

**6. CORRECTIVE ACTION**

None. This is not a problem condition. Disregard this PRM.

**NOTE:** Also disregard the one or two PRMs preceding this pattern if they have a D or F in position 15.



**PRM:5555-5555****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p 5555 5555 5555 5555 hh hh hh

**2. PRM SOURCE**

3B20D central control (CC) diagnostic phase 93 or 3B21D CC diagnostic phase 65.

**3. FUNCTION**

Diagnostic test.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

h = Any hexadecimal number.

**5. EXPLANATION**

The off-line processor produces PRMs during CC diagnostics. This PRM is one in a sequence of PRMs output during the CC diagnostic. More detailed information about these PRMs is given in the Corrective Maintenance manual, 235-105-220.

**6. CORRECTIVE ACTION**

None. This is not a problem condition. Disregard this PRM.

**NOTE:** Also disregard the one or two PRMs preceding this pattern if they have a D or F in position 15.

**PRM:AAAA-AAAA****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p AAAA AAAA AAAA AAAA hh hh hh

**2. PRM SOURCE**

3B20D central Control (CC) diagnostic phase 93 or 3B21D CC diagnostic phase 65.

**3. FUNCTION**

Diagnostic test.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

h = Any hexadecimal number.

**5. EXPLANATION**

The off-line processor produces PRMs during CC diagnostic. This PRM is one in a sequence of PRMs output during the CC diagnostic. More detailed information about these PRMs is given in the Corrective Maintenance manual, 235-105-220.

**6. CORRECTIVE ACTION**

None. This is not a problem condition. Disregard this PRM or any of the sequence described in the Explanation.

**NOTE:** Also disregard the one or two PRMs preceding this pattern if they have a D or F in position 15.

**PRM:CCxx-CCCC****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p CCda CCCC CCCC CCCC hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Common channel signaling (CCS) call processing is now available.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

CC = Success 5ESS<sup>®</sup> switch Application PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This PRM is printed in real time directly to the emergency action interface (EAI) and the receive-only printer (ROP) (that is, it is not queued like most of the other PRMs). At this point, the operator should verify that CCS call processing is indeed on.

**NOTE:** This PRM assumes that the switching modules (SMs) are available for call processing and that this is not a dead start situation.

## **6. CORRECTIVE ACTION**

None. These PRMs are informational only.

**PRM:E0xx-0100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E0da 0100 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Maintenance reset function (MRF) microcode initialized the processor and exited to PINIT software.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This recovery action is taken if the initialization sequence control (ISC) bits in the system status register (SSR) indicate that this is the first automatic recovery initialization to occur recently. This recovery action can also be initiated manually by entering a 51 on the Master Control Center (MCC) terminal.

This recovery action assumes the PINIT software in main store is valid and will be able to recover the CU. The starting address of PINIT is read from physical location 0xC in main store.

This recovery action can take place if the ISC bits are set for a stop and switch (SAS) and the CU is forced on-line.

## **6. CORRECTIVE ACTION**

None.

**PRM:E0xx-0200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E0da 0200 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Maintenance reset function (MRF) microcode initialized the processor and executed a microcode stop and switch (SAS).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

There are two situations in which the central control (CC) microcode will initiate a SAS. The first is due to the state of the initialization sequence control (ISC) bits in the system status register (SSR). The other situation arises when certain error microinterrupts cause errors in the CU.

The ISC bits indicate if this recovery action is the second MRF to occur recently or if the software decides that a

SAS is the best recovery action at this point in time.

Before a SAS is attempted, the force on-line bit in the SSR is examined. If the CU is forced on-line, the PINIT is executed and the microcode PRM indicating this action is printed.

## **6. CORRECTIVE ACTION**

None.



**PRM:E0xx-030x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E0da 030z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Maintenance reset function (MRF) microcode initialized the processor and successfully executed microboot using disk file controller 0 (DFC0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The MRF microcode has initialized the processor and has given control to the microboot microcode. Microcode has three tasks to complete without error. It must read from disk the volume table of contents (VTOC), a writable

microstore file, and the little boot software. This PRM is printed when all three tasks are completed, and then control is given to the little boot software. This PRM is printed only when DFC 0 has been used.

Microboot will leave the 3-out-of-6 codes of the dual serial channel (DSCH), the direct memory access controller (DMAC), and the DFC along with the moving head disk (MHD) number in general register 5 to be used by the software.

## **6. CORRECTIVE ACTION**

None.

**PRM:E0xx-0400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E0da 0400 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

The maintenance reset function (MRF) microcode executed a power-up initialization of the processor.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The MRF microcode has detected that the power clear bit in the system status register (SSR) was active. The power-up initialization microcode clears all of main store in addition to the normal initialization of the processor. A special keyword is written to main store indicating to the software running on the other CU that this CU has just powered up.

**6. CORRECTIVE ACTION**

None.

**PRM:E0xx-0500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E0da 0500 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

The maintenance reset function (MRF) microcode was prevented from escalating to a full bootstrap by the no disk independent operation (DIOP) indicator and exited to PINIT software instead.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This recovery action is taken if the initialization sequence control (ISC) bits in the system status register (SSR) indicate that this should be a full bootstrap automatic initialization but the no disk independent operation indicator is preventing the bootstrap.

The NDLM feature can be overridden by any manual initialization from the Master Control Center (MCC).

This recovery action assumes the PINIT software in main store is valid and will be able to recover the CU. The starting address of PINIT is read from physical location 0xC in main store.

The ISC bits are left at level 1 initialization.

## **6. CORRECTIVE ACTION**

None.

**PRM:E0xx-0600****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E0da 0600 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

The maintenance reset function (MRF) microcode initialized the processor and then successfully executed the microcode portion of the load disk from tape (LDFT) feature.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The task of the LDFT microcode is to read the writable central control (CC) microcode and the LDFT software from the tape-only program (TOP) tape. The writable microcode is read from the tape and pumped to the writable microstore. Then the LDFT software is read from the tape and control is given to this software. This PRM is printed only when all steps complete correctly.

The 3-out-of-6 codes for the dual serial channel (DSCH), direct memory access (DMA), and disk file controller (DFC) are put into general register 5 for the LDFT software to use.

## **6. CORRECTIVE ACTION**

None.



**PRM:E0xx-070x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E0da 070z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

The maintenance reset function (MRF) microcode initialized the processor and successfully executed microboot using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The MRF microcode has initialized the processor and has given control to the microboot microcode. The microcode has three tasks to complete without error. It must read from disk the volume table of contents (VTOC), a writable

microstore file, and the little boot software. This PRM is printed when all three tasks are completed, and then control is given back to the little boot software. This PRM is printed only when DFC 1 has been used.

Microboot will leave 3-out-of-6 codes of the dual serial channel (DSCH), direct memory access controller (DMAC), and DFC along with the moving head disk (MHD) number in general register 5 to be used by the software.

## **6. CORRECTIVE ACTION**

None.

**PRM:E0xx-xxxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E0da yyzz zzzz zzzz hh hh hh

**2. PRM SOURCE**

Processor microcode.

**3. FUNCTION**

The CC microcode has generated a PRM code which is to be ignored.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Has no meaning since the PRM is to be ignored.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Value of PRM code. Valid values are:

12,13,1A,1B and 1F

32 through 3F

40 through 47

52,53,5A and 5B

72 through 7F

80 through 8F

90 through 9F

A0 through AF

B0 through BF  
C0 through CF  
D0 through DF  
E0 through EF  
F0 through FE

z = These digits have no meaning and are to be ignored.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The CC microcode has generated a PRM code which is to be ignored.

## 6. CORRECTIVE ACTION

No corrective action is required.

**PRM:E1xx-51xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 51yy yyyy zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Mount first tape that has disk data on it.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Data type.

z = Tape sequence number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Mount the first tape that has disk data on it.

**PRM:E1xx-54xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 54yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Tape version information.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

5 = Booting on tape from controller 0.

6 = Booting on tape from controller 1.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Data type associated with this tape sequence. The different data types and their associated bit positions are. Valid values are:

40 = Generic.

80 = Database.

C0 = Merge.

|    |                                    |
|----|------------------------------------|
| 20 | = Volume table of contents (VTOC). |
| 04 | = Essential.                       |
| 08 | = Nonessential.                    |

To obtain the combination of data types, use hexadecimal addition. For example, a HEX value of 64 is developed from. Valid values are:

|    |                                                    |
|----|----------------------------------------------------|
| 40 | = Generic                                          |
| 20 | = VTOC                                             |
| 04 | = Essential                                        |
| -- | =                                                  |
| 64 | = The VTOC partition of an essential generic tape. |

For additional information about data types, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

|   |                                                                                                                                                        |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| z | = Tape identifier.                                                                                                                                     |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits. |

## 5. EXPLANATION

Each tape has an identifier. If multiple tapes are involved, each tape in the sequence must have the same identifier.

## 6. CORRECTIVE ACTION

None.



**PRM:E1xx-5700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 5700 000z zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

To periodically output (in hexadecimal) the total number of tape blocks read, so far, from the currently mounted tape.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Total number (in hexadecimal) of blocks read, from the currently mounted tape, so far.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

In order to provide a progress indication, the total number of tape blocks read, for the currently mounted tape, is periodically output. The last PRM 5700 that is output for a given tape will contain the total number of blocks (in hexadecimal) read from that tape.

## **6. CORRECTIVE ACTION**

None.

**PRM:E1xx-58xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 58yy yyyy yyzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Mount next tape.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Tape identifier.

z = Tape sequence number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

Multiple tapes are involved. Mount the next tape in this sequence.

## **6. CORRECTIVE ACTION**

Mount a tape whose identifier and sequence number is specified in the PRM.

**PRM:E1xx-59xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 59yy y000 00zz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

All of the software release or database data has been loaded.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = End of data.

z = Primary/backup selection for bootstrap.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The disk data to be loaded by the LDFT feature has been loaded.

## 6. CORRECTIVE ACTION

If this load sequence involves both software release and database tapes, the computer should not be bootstrapped after loading the software release tapes. Instead, the first database tape is mounted and LDFT is initiated again. If this is a software release-only LDFT, the computer should now be bootstrapped. If load sequence involves merged tapes, the computer should now be bootstrapped. After the database tapes have been loaded in either a software release followed by database or a database-only LDFT, the computer should be bootstrapped. If  $z$  equals 00, boot the system using the primary disk; otherwise, boot using the backup disk.

**PRM:E1xx-68xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 68yy yyyy yyzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Mount next tape after consulting your technical support center.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Tape identifier.

z = Tape sequence number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

Multiple tapes are involved. Mount the next tape in this sequence after consulting with your technical support center. In the last one data block on the tape, the computed hash-sum and the expected hash-sum did not agree.

Continuing from this point may allow the system to boot, however, corrupt data may have been written to the disk.

## **6. CORRECTIVE ACTION**

Prior to mounting a tape whose identifier and sequence number are specified in the PRM, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.



**PRM:E1xx-69xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 69yy y000 00zz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

All of the software release or database data has been loaded with hash-sum mismatches detected.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = End of data.

z = Primary/backup selection for bootstrap.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The disk data to be loaded by the LDFT feature has been loaded with hash-sum mismatches detected. In at least one data block on the tape, the computed hash-sum and the expected hash-sum did not agree. Continuing from this

point may allow the system to boot. However, corrupt data may have been written to the disk.

## **6. CORRECTIVE ACTION**

Consult with your technical support center before proceeding to the next step. Refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

If this load sequence involves both software release and database tapes, the computer should not be bootstrapped after loading the software release tapes. Instead, the first database tape is mounted and LDFT is initiated again.

If this is a software release-only LDFT, the computer should now be bootstrapped.

If the load sequence involves merged tapes, the computer should now be bootstrapped.

After the database tapes have been loaded in either a software release followed by database or a database-only LDFT, the computer should be bootstrapped.

If *z* equals 00, boot the system using the primary disk; otherwise, boot using the backup disk.

**PRM:E1xx-7100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 7100 y00z zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Bad hash sum on tape.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Valid values are.

1 = Tape header hash check failed.

0 = Data hash check failed.

z = Number of hex blocks read.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## **5. EXPLANATION**

A hash sum on the header or the data following the header does not match the hash sum in the tape header. This PRM will only be printed a maximum of five times. This error will not cause any maintenance reset functions (MRFs) to occur. The tape will continue to be read.

## **6. CORRECTIVE ACTION**

Mount another tape.

**PRM:E1xx-7400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 7400 yyzz 0000 hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

LDFT program version information.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT program version number.

z = Queue size for tape read commands. Valid values are:

01 = Circuit packs UN134 and UN52 peripheral controllers (PCs).

07 = UN145 PC circuit pack.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The LDFT program version number will be changed whenever the LDFT program is modified. The tape queue size is set according to the type of tape with which the PC is equipped.

**6. CORRECTIVE ACTION**

None.

**PRM:E1xx-8800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 8800 yyyy 000z hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Disk format is in progress.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = For storage module device (SMD) disk - number of 1024 tracks (nonfixed media) or 512 tracks (fixed media) that have been initialized so far. Large defect management causes an automatic verify for the fixed media disk.

z = Valid values are:

| If device is:                                | "z" =                 |
|----------------------------------------------|-----------------------|
| Small computer system interface (SCSI) disk. | 2 = SCSI DFC          |
| Storage module device (SMD).                 | 1 = Fixed media disk. |

|  |                          |
|--|--------------------------|
|  | 0 = Nonfixed media disk. |
|--|--------------------------|

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

Because formatting a disk takes a significant amount of time, this PRM is produced to indicate the machine is still working.

## 6. CORRECTIVE ACTION

None.



**PRM:E1xx-8900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 8900 0000 000z hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Wrong disk format parameter set for small computer system interface (SCSI) moving head disk (MHD).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = SCSI PRM.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A N or n has been input with application parameter 42. This is illegal for SCSI. The N parameter will therefore default to I or i and a disk FORMAT command will be initiated.

**6. CORRECTIVE ACTION**

None.

**PRM:E1xx-983B****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 983B 10AD 10AD hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT)

**3. FUNCTION**

A PRM is generated after hash-sum mismatches have been detected.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The machine is in a wait loop until the next tape is mounted after consultation with your technical support center. In at least one data block on the tape, the computed hash-sum and the expected hash-sum did not agree. Continuing from this point may allow the system to boot. However, corrupt data may have been written to the disk. This PRM is output so that the emergency action interface (EAI) screen will flash with alternate PRMs. The data output - 0X3B10AD10AD - is the closest pattern to 3BLOADLOAD.

## **6. CORRECTIVE ACTION**

Refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E1xx-993B****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da 993B 10AD 10AD hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Waiting for next tape to be mounted.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The machine is in a wait loop until the next tape is mounted. This informational PRM is output so that the emergency action interface (EAI) screen will flash with alternate PRMs. The data output - 0X3B10AD10AD - is the closest possible pattern to 3BLOADLOAD.

**6. CORRECTIVE ACTION**

None.

**PRM:E1xx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E1da DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Disk data (previously known as all-seems-well function).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

**NOTE:** Variable *w* is not used for LDFT.

- x* = Last two hexadecimal digits of sequence number that is part of postmortem dump.
- y* = Boot device *n* status, where *n* is an odd-numbered MHD in the range H'1 through H'F. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- z* = Boot device *n* status, where *n* is an even-numbered MHD in the range H'0 through H'E. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- h* = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

This PRM is generated when this process (step) has successfully completed execution.

## 6. CORRECTIVE ACTION

None.



**PRM:E2xx-010x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 010z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

Control unit (CU) is going off-line.

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Reason CU went off-line. Valid values are:

1 = This CU is going off-line because its system status register (SSR) said it was forced off-line.

2 = This CU is going off-line because the other CU should go on-line.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

None.

**6. CORRECTIVE ACTION**

None.

**PRM:E2xx-03xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 03zz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

Full memory copy from off-line to on-line.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = The last two hexadecimal digits of the postmortem dump sequence number associated with this recovery.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

This is a success PRM that indicates a full memory copy has occurred on a level 1 initialization accompanied by a stop and switch (SAS). The application level in this PRM may not be the correct level for this initialization because this level is administered after this PRM has been printed.

## **6. CORRECTIVE ACTION**

None.

**PRM:E2xx-0400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 0400 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

Indication that a manually requested operating system level 2 [52 on emergency action interface (EAI)] was incremented to an administrative module (AM) level 3.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The configuration was changed on the EAI terminal [that is, minimum mode (MINMODE) to application/administrative module [AM], or AM to MINMODE] which was followed by a manually requested level 2. On a operating system level 2, the equipment configuration database (ECD) is not loaded so the operating system level was incremented to a level 3. A new ECD will then be loaded and thus the system will have the correct ECD for the mode selected on the EAI.

## **6. CORRECTIVE ACTION**

None.

**PRM:E2xx-0500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 0500 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

Status indicator which is output approximately every 5 seconds during a memory copy.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

During a memory copy, the system is very quiet. This PRM is used as an indicator that the processor is still working.

**6. CORRECTIVE ACTION**

None.





**PRM:E2xx-0600****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 0600 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

Manual initialization used the primary partition for booting.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

A manual boot initialization was requested through the emergency action interface (EAI) using the backup partition. A check of the volume table of contents (VTOC) showed that no backup partitions exist. The default was to boot on the requested level but to use the primary partition.

**6. CORRECTIVE ACTION**

None.

**PRM:E2xx-0700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 0700 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

A PINIT was unable to pump microcode to the off-line microstore.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

PINIT pumps microcode to the off-line CU if it detects a violation of low physical memory contents in the off-line CU. This is done to ensure that if diagnostics were in progress or the off-line microstore had incorrect data for any other reason, the system will have a chance to attempt recovery without bootstrap. This PRM indicates that a failure was detected during the process of copying the contents of on-line microstore to the off-line CU.

**6. CORRECTIVE ACTION**

This PRM is simply an indication of a problem with the off-line CU; it does not indicate a problem with the on-line CU. In such a situation (given that the system is able to recover), the off-line CU should be diagnosed for a hardware problem.

**PRM:E2xx-0A0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 0A0y yyyy yyzz hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

PINIT during boot detected errors in the error register or the micro error register.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Error register bits 27 through 0 (left to right). Refer to the Output Message manual, 235-600-750, for the definition of the error register bits.

z = Faulty CU where the error occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This is an informational PRM. The information contained in this PRM will appear in the post mortem dump unless

the system fails to recover.

## **6. CORRECTIVE ACTION**

Diagnose the faulty CU and replace the faulty hardware boards.

**PRM:E2xx-0B00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 0B00 yyzz 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

PINIT collected post mortem data and found sanity timer timeouts.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Indicate the on-line CU sanity timer value.

z = Indicate the off-line CU sanity timer value.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This is an informational PRM. The sanity timer values will appear in the post mortem dump unless the system fails to recover.

## 6. CORRECTIVE ACTION

None.



**PRM:E2xx-0C00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 0C00 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

PINIT collected postmortem data and found there were more off-line cache registers to read.

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Sequence number of the cache register that was not read.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The routine that reads the off-line cache registers during the postmortem data collection does not have the necessary code to read the indicated cache register.

**6. CORRECTIVE ACTION**

Collect the receive-only printer (ROP) output containing this PRM and refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E2xx-0Dxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 0Dxy z000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) - panic dump.

**3. FUNCTION**

Panic dump status information.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = 1 if the panic dump to the disk was successful.

y = The panic dump disk ID (H'0 through H'F).

z = Access status. Valid values are:

0 = Normal access.

5 = A failure occurred in accessing the equipment configuration database (ECD) to get the status of the units.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definitions of the digits.

## **5. EXPLANATION**

This is an informational PRM.

## **6. CORRECTIVE ACTION**

None.

**PRM:E2xx-0Fxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da 0Fzz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

PINIT detected a failure during off-line boot (OFLBOOT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = OFLBOOT failure status. Valid values are:

01 = During OFLBOOT, the on-line side is having some problem, and therefore it is no longer administering the off-line side sanity timer. As a result, the off-line exceeds the maximum number of maintenance reset functions (MRFs) allowed. OFLBOOT will be aborted, and the system will recover on the off-line side with at least RTR initialization level 3.

02 = During OFLBOOT, the off-line side detected a re-initialization. The off-line side will be halted, because either the RETROFIT option has been set, or the number

of initializations has not reached the maximum allowed for taking a recovery action.

- 03 = During OFLBOOT, the off-line side detected an unexpected phase 1 initialization; as a result, the off-line side will be halted.
- 04 = The on-line side detected a boot strap initialization. As a result, OFLBOOT will be aborted and system will recover on the on-line side.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

This is an informational PRM.

## 6. CORRECTIVE ACTION

None.

**PRM:E2xx-ABD0****Software Release:** 5E13 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da ABD0 0000 wxyz hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

Report that the boot level was escalated from level 52 to level 53.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Bus device ID of the previous active boot device under DFC 0, or H'f if the boot device was not active.

x = Bus device ID of the previous active boot device under DFC 1, or H'f if the boot device was not active.

y = Bus device ID of the current active boot device under DFC 0, or H'f if the boot device was not active.

z = Bus device ID of the current active boot device under DFC 1, or H'f if the boot device was not active.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The boot level is escalated when LBOOT determines that the ECD on the boot disk may be different than the ECD in main memory. If the bus device ID (BDID) in PRM fields  $yz$  is different from either of the previous BDIDs in PRM fields  $wx$ , then escalation occurs. For example, an  $wxyz$  value of 50F5 shows that MHD 10 and MHD 1 were the previous active disks and that the current active disk is MHD 11.

The following table represents the mapping of the values in the PRM to MHD numbers.

| BDID | PRM Fields |            |
|------|------------|------------|
|      | w and y    | x and z    |
| H'0  | MHD 0      | MHD 1      |
| H'1  | MHD 2      | MHD 3      |
| H'2  | MHD 4      | MHD 5      |
| H'3  | MHD 6      | MHD 7      |
| H'4  | MHD 8      | MHD 9      |
| H'5  | MHD 10     | MHD 11     |
| H'6  | MHD 14     | MHD 15     |
| H'7  | MHD 12     | MHD 13     |
| H'f  | Not active | Not active |

## 6. CORRECTIVE ACTION

None.



**PRM:E2xx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E2da DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

Disk data (previously known as all-seems-well function).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

- x = Last two hexadecimal digits of sequence number that is part of postmortem dump.
- y = Boot device *n* status, where *n* is an odd-numbered MHD in the range H'1 through H'F. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- z = Boot device *n* status, where *n* is an even-numbered MHD in the range H'0 through H'E. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

This PRM is generated when this process (step) has successfully completed execution.

## 6. CORRECTIVE ACTION

None.

**7. E3xx-0000 — E5xx-FFFF**

**PRM:E3xx-360x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E3da 360y zzzz zzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Failure occurred during the read operation of the maintenance registers in the off-line memory controller. This is being done to determine the amount of memory available.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Sequence number in accessing the main memory registers. Valid values are:

1 = Error in accessing the main memory status register.

2 = The data in the status register indicated that none of the 8 banks of memory is present.

3 = Error in accessing the bank boundary register.

z = Valid values are:

| If "y" = | "z" =                                            |
|----------|--------------------------------------------------|
| 1        | The contents of the main memory register.        |
| 2 or 3   | The contents of the main memory status register. |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

During big boot, the amount of available memory must be determined. This PRM indicates a problem occurred while reading hardware registers located in the memory controller on the main memory circuit pack (KLW32). The appropriate bits in the PRM will indicate the error that occurred.

## 6. CORRECTIVE ACTION

This PRM indicates that the memory controller on the off-line CU (KLW32) was inaccessible. Once the machine comes up, diagnose the other CU and take appropriate action if any of the diagnostic phases fails.

**PRM:E3xx-3700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E3da 3700 0000 0000 hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Failure in accessing the main storage controller (MASC) unit control block (UCB) for the off-line control unit (CU).

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

During big boot, the amount of available memory must be determined (that is, the minimum of memory on CU 0 and CU 1). If the off-line CU is not accessible, the UCB is queried to compute the memory size. This PRM is printed if there is a failure in accessing the required UCB form.

**6. CORRECTIVE ACTION**

Once the machine comes up, check the database for correctness. In particular, check the equipment configuration database origination record (ECDORG) and UCB for the MASC.

**PRM:E3xx-3800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E3da 3800 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Insufficient main memory in the off-line control unit (CU).

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = The address of the last available byte of memory as computed by reading the various maintenance registers located in the main memory circuit pack.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

During big boot, the amount of available memory must be determined. This PRM is printed when the memory bank registers, located in the memory controller logic on the main memory circuit pack (KLW32) on the off-line CU, indicate insufficient memory is available to load the operating system (that is, less than 8 megabytes). The machine



will continue the boot sequence with the available memory on the on-line CU.

## **6. CORRECTIVE ACTION**

This PRM indicates a severe problem in the main memory circuit of the off-line CU. Replace the main memory circuit pack (KLW32).

If this does not solve the problem, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E3xx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E3da DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Disk data (previously known as all-seems-well function).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

- x = Last two hexadecimal digits of sequence number that is part of postmortem dump.
- y = Boot device *n* status, where *n* is an odd-numbered MHD in the range H'1 through H'F. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- z = Boot device *n* status, where *n* is an even-numbered MHD in the range H'0 through H'E. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated when this process (step) has successfully completed execution.

## 6. CORRECTIVE ACTION

None.

**PRM:E4xx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E4da DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Disk data (previously known as all-seems-well function).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

p = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = A phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

- x = Last two hexadecimal digits of sequence number that are part of postmortem dump.
- y = Boot device *n* status, where *n* is an odd-numbered MHD in the range H'1 through H'F. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- z = Boot device *n* status, where *n* is an even-numbered MHD in the range H'0 through H'E. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated when this process (step) has successfully completed execution.

## 6. CORRECTIVE ACTION

None.

**PRM:E5xx-01xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 01yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

"lla\_rdget|" returned an error condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function number) at which lla\_rdget| returned an error.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An error was returned when searching the equipment configuration database (ECD) using the "lla\_rdget|" command.

This indicated that no data was found for the specified record identifier and thus the record identifier and the data requested were garbage. Hence this error implicates the sanity of the database. The machine may function properly for some time and normal operations [such as switching control units (CUs)] may remove the problem. It may also indicate imminent failure.

## **6. CORRECTIVE ACTION**

Run the ECD audit for the incore database using the AUD:ECD input message. Refer to the Input Messages manual, 235-600-700.

If the system is in the OFF-LINE BOOT mode, stop it and then run the ECD audit.

**PRM:E5xx-03xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 03yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

lla\_uprid returned an error condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some error was encountered but the system should continue to function.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function) lla\_uprid returned an error.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**



An error was returned when searching the equipment configuration database (ECD) using the `lla_uprid` command. This indicated that a previously obtained record could not be updated in the ECD. Hence this error implicates the sanity of the database. The machine may function properly for some time, and normal operations (such as switching CUs) may remove the problem. It may also indicate imminent failure.

## **6. CORRECTIVE ACTION**

Run the ECD audit for the incore database using the input message: `AUD:ECD`. Refer to the Input Messages manual, 235-600-700.

If the system is in the OFF-LINE BOOT mode, stop it using the `STOP:OFLBOOT` input message and then run the ECD audit.

**PRM:E5xx-04xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 04yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

lla\_opensq returned an error condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function number) at which lla\_opensq returned an error.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An error was returned when searching the equipment configuration database (ECD) using the lla\_opensq command.

This indicated a premature end of a database search and the possible use of garbage data in the operating system. The machine may function properly for some time, and normal operations (such as switching CUs) may remove the problem. It may also indicate imminent failure.

## **6. CORRECTIVE ACTION**

Run the ECD audit using the AUD:ECD input message. Refer to the Input Messages manual, 235-600-700.

If the system is in the OFF-LINE BOOT mode, wait for the OFF-LINE BOOT to stop, and then run the ECD audit.

**PRM:E5xx-05xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 05xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Unable to attach to interrupts.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number at which atchintr was unable to attach to interrupts.

z = Interrupt source digits for which atchintr was unable to attach.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The indicated function was unable to attach to interrupts. This indicates that the process which was being attached to the interrupt source (vector) did not exist or that the interrupt vector was invalid. In any event, EIH did not attach to an interrupt source and any errors will not be handled properly. The possible interrupt sources are:

- 0                   = My central control (CC) hardware.
- 1                   = Other CC hardware.
- 2                   = My CC software.

## **6. CORRECTIVE ACTION**

None.

**PRM:E5xx-06xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 06xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Unable to enable interrupts.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within function number) at which enabintr was unable to enable interrupts.

z = Interrupt source digits.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The indicated function was unable to enable interrupts. This indicates that the interrupt vector is invalid, the process does not exist, or the process is not attached to the interrupt vector. This indicates that EIH could not enable an interrupt source and that errors will not be handled properly. The possible interrupt sources are:

- 0               = My central control (CC) hardware.
- 1               = Other CC hardware.
- 2               = My CC software.

## **6. CORRECTIVE ACTION**

None.

**PRM:E5xx-07xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 07xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Unable to disable interrupts.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number.

y = Line number (within function) at which disabintr was unable to disable interrupts.

z = Interrupt source digits. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**



The indicated function was unable to disable interrupts. This indicates that the interrupt vector is invalid, the process does not exist, or the process is not attached to the interrupt vector. This indicates that EIH could not disable an interrupt source and that errors will not be handled properly. The possible interrupt sources are:

- 0                   = My central control (CC) hardware.
- 1                   = Other CC hardware.
- 2                   = My CC software.

## **6. CORRECTIVE ACTION**

None.

**PRM:E5xx-08xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 08xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

atchchan returned an error condition. Unable to construct an attach point for an interrupt.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within function) at which atchchan kernel call returned a failure.

z = Interrupt source digits.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This indicates that atchchan was given an invalid interrupt source, the channel number was greater than a maximum, or no more attach buffers are available. Since the channel data is derived from the equipment configuration database (ECD), most likely this indicates a problem with the database, although it may also indicate a problem in the kernel.

## **6. CORRECTIVE ACTION**

None.

**PRM:E5xx-09xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 09yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

gnxt returned an error condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function) where gnxt returned an error.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An error was returned when searching equipment configuration database (ECD) using the gnxt command. This

indicates a premature end of a database search and the possible use of garbage data in the operating system. The machine may function properly for some time, and normal operations (such as switching CUs) may remove the problem. It may also indicate imminent failure.

## **6. CORRECTIVE ACTION**

Run the ECD audit for the in core memory database using the AUD:ECD input message. Refer to the Input Messages manual, 235-600-700.

**PRM:E5xx-0Axx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 0Ayy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

topucb returned an error condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function number) at which topucb returned an error.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An error was returned when searching the equipment configuration database (ECD) using the topucb command.

This indicates that the "top|" of a community could not be found and thus implicates the sanity of the ECD. The machine may function properly for some time, and normal operations (such as switching CUs) may remove the problem. It may also indicate imminent failure.

## **6. CORRECTIVE ACTION**

Run the ECD audit for the in core memory database using the AUD:ECD input message. Refer to the Input Messages manual, 235-600-700.

**PRM:E5xx-0Bxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 0Byy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

A bad record identifier (RID) was passed to a function.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function number) received an invalid equipment configuration database (ECD) RID.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**



An invalid RID was passed to a function within EIH. This indicates that a previously retrieved ECD entry was invalid and implicates the sanity of the database. The machine may function properly for some time, and normal operations may remove the problem. The error may, however, indicate imminent failure.

## **6. CORRECTIVE ACTION**

Run the ECD audit using the AUD:ECD input message. Refer to the Input Messages manual, 235-600-700.

**PRM:E5xx-0Cxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 0Cyy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

chucb returned an error condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function number) at which chucb returned an error.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An error was returned when searching the database using the chucb command. This indicates a premature end of a

database search and the possible use of garbage data in the operating system. The machine may function properly for some time, and normal operations (such as switching CUs) may remove the problem. It may also indicate imminent failure.

## **6. CORRECTIVE ACTION**

Run the equipment configuration data (ECD) audit for the in core memory database using the AUD:ECD input message. Refer to the Input Messages manual, 235-600-700.

**PRM:E5xx-0Dxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 0Dyy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

lla\_nextseq returned an error condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number at which the lla\_nextseq returned an error.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An error was returned when searching the equipment configuration database (ECD) using the lla\_nextseq

command. This indicates a premature end of a database search and the possible use of garbage data in the operating system. The machine may function properly for some time, and normal operations (such as switching CUs) may remove the problem. It may also indicate imminent failure.

## **6. CORRECTIVE ACTION**

Run the ECD audit using the AUD:ECD input message. Refer to the Input Messages manual, 235-600-700.

If the system is in the OFF-LINE BOOT mode, wait for the OFF-LINE BOOT to stop, and then run the ECD audit.

**PRM:E5xx-0Exx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 0Eyy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

rpterr returned an error condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number at which rpterr returned a failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

In reporting an error which might cause the CU to be removed, a failure was returned. This means that a faulty CU

may remain in service.

## **6. CORRECTIVE ACTION**

None; however, the configuration control library (config) may have printed an error message providing further information on the error.

**PRM:E5xx-0Fxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 0Fyy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

sendmch returned a failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number at which the sendmch returned a failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A failure was encountered in attempting to send a maintenance channel command to the off-line processor.



## **6. CORRECTIVE ACTION**

Diagnose the maintenance channel and check the maintenance channel cables.

**PRM:E5xx-11xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 11zz 0000 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

A request to remove a unit using the configuration control library (config) fault driver function returned a failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Function number in which the EIH called the config function (fltdrv) and received a failure return. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A request has been made by EIH to remove the off-line processor using the config library (fltdrv) function. The fltdrv routine returned a failure.

## **6. CORRECTIVE ACTION**

None; however, the configuration control library may have printed an error message providing further information on the error.

**PRM:E5xx-12xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 12zz 0000 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

lla\_get function failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Function lla\_get returned a failure. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

In searching the equipment configuration database (ECD) using the lla\_get command, an error was returned. This indicates that no data was found for the specified record identifier and thus the record identifier and the data requested are garbage. Hence, this error implicates the sanity of the database. The machine may function properly

for some time, and normal operations (such as switching CUs) may remove the problem. It may also indicate imminent failure.

## **6. CORRECTIVE ACTION**

Run the ECD audit for the incore database using the AUD:ECD input message. Refer to the Input Messages manual, 235-600-700.

If the system is in the OFF-LINE BOOT mode, stop it using the STOP:OFLBOOT input message and then run the ECD audit.

**PRM:E5xx-13xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 13yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Direct memory access (DMA) channel initialization returned a failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function) at which the EIH DMA initialization routine returned a failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A failure was returned from the DMA random access memory (RAM) initialization routine. The DMA RAM

initialization routine attempts to set the contents of the DMA RAM to all 0s. A failure return indicates that an input/output (I/O) timeout or I/O error occurred.

## **6. CORRECTIVE ACTION**

Diagnose the DMA in the faulty control unit (CU).

**PRM:E5xx-15xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 15yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Bad operating system trap (OST) code passed to kernel operating system trap (KOST).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function) at which the EIH detected an illegal OST code.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A bad OST code was detected in the EIH KOST entry. The KOST entry in EIH is used strictly for PIO error handling.



The expected OST codes, PIO error PIOERR and PIO time out PIOTMO, were not matched.

## **6. CORRECTIVE ACTION**

None.

**PRM:E5xx-16xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 16xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Mismatch of dual serial channel (DSCH) masks.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Interrupt mask (within function number) and service request mask returned by an inhibitdv operating system trap (OST) were found to be dissimilar.

z = Service request mask.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The channel masks for a direct memory access (DMA) channel should be identical. The interrupt mask was used to inhibit devices during a channel error recovery. The error points to (1) inconsistency in kernel data tables and (2) possible loss of input/output (I/O) from a device [disk file controller (DFC) or I/O processor (IOP)].

## **6. CORRECTIVE ACTION**

If the PRM persists, a manual phase 1 should clear the situation.

**PRM:E5xx-17xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 17xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure return from inhibitdv operating system trap (OST).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within function) at which a call to the inhibitdv OST returned a failure.

z = Channel number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The call failed due to an invalid channel number. If the channel number does not correspond to an equipped channel, then a number of problems may be present such as faulty direct memory access (DMA), faulty dual serial channel (DSCH), or corrupted equipment configuration database (ECD) or process. If the channel number is valid, kernel data corruption is indicated.

## **6. CORRECTIVE ACTION**

If possible, switch processors or phase twice to force the system to the off-line. If the problem persists through a phase 1 on a different CU, a bootstrap is required. A level 3 bootstrap will maximize success.

**PRM:E5xx-18xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 18xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure to write the dual serial channel (DSCH) mask.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Channel number.

z = Write DSCH device for which the mask failed.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The write mask was performed to inhibit a device for channel error recovery. Repeated failures for a valid channel and device indicate a hung channel.

## **6. CORRECTIVE ACTION**

The failing device should be powered down. If this cannot be done or does not work, switch or force processing to the other processor.

**PRM:E5xx-19xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 19xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure to initialize the network service complex (NSC) interface.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within function) at which the EIH failed to initialize.

z = Channel position at which the EIH failed to initialize the NSC interface.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**



The NSC interface channel, given by digits 12-15, could not be initialized. An input/output (I/O) error was detected on the initialization attempt; therefore, this channel may not be usable.

## **6. CORRECTIVE ACTION**

Ensure that the equipment configuration data (ECD) channel equipage matches what is physically present. If all channels are physically present, consider switching processors.

**PRM:E5xx-20xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 20xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Postmort sequence number mismatch.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Postmort sequence number from the iparm area in low core.

z = Postmort sequence number from the post mort area in low core.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

This PRM alerts the user to the possibility of invalid postmort data. EIH was notified about an error interrupt through its fault entry code. In the process of deciding whether a phase or maintenance interrupt had occurred, EIH discovered that the postmort sequence number stored in the iparm area of low core did not match the postmort sequence number stored in the postmort area of low core. Consequently, the postmortem dump may not be for the most recent recovery.

## **6. CORRECTIVE ACTION**

None.

**PRM:E5xx-21xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 21xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure to initialize a serial channel (SCH).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within function number) at which the EIH failed to initialize the channel.

z = Number of channel that the EIH failed to initialize.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The SCH given by  $z$  could not be initialized. An input/output (I/O) error was detected on the initialization attempt; therefore, this channel may not be usable.

## **6. CORRECTIVE ACTION**

Ensure that the equipment configuration data (ECD) channel equipage matches what is physically present. If all channels are physically present, consider switching processors.

**PRM:E5xx-22xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 22xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure to initialize a dual serial channel (DSCH).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within function number) at which the EIH failed to initialize the channel.

z = Number of channel that the EIH failed to initialize.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The DSCH given by  $z$  could not be initialized. An input/output (I/O) error was detected on the initialization attempt; therefore, this channel may not be usable.

## **6. CORRECTIVE ACTION**

Ensure that the equipment configuration data (ECD) channel equipage matches what is physically present. If all channels are physically present, consider switching processors.

**PRM:E5xx-23xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 23yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure to enable the direct access memory (DMA).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function number) at which the EIH failed to enable the DMA.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

After initializing the DMA, the attempt to enable DMA failed.



## **6. CORRECTIVE ACTION**

Diagnose the DMA in the faulty CU.

**PRM:E5xx-24xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 24xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

The dtchchan operating system trap (OST) returned an error: unable to detach an attach point for an interrupt.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number at which the dtchchan kernel call returned a failure.

z = Interrupt source digits for which the dtchchan kernel call returned a failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This indicates that dtchchan was given an invalid interrupt source, the channel number was greater than a maximum, or the attach buffer does not exist. Since the channel data is derived from the equipment configuration database (ECD), most likely this indicates a problem with the database, although it may also indicate a problem in the kernel or growth/degrowth procedures.

## **6. CORRECTIVE ACTION**

None.

**PRM:E5xx-25xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 25zz 0000 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

The dual serial channel mask (DSCHMASK) operating system trap (OST) failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Function number where DSCHMASK returned a failure indication. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The kernel could not write the DSCHMASK. If this error occurs during soft switch then the problem exists in the processor being switched to. The error may be with the channel hardware, or it may be a problem in the kernel.

## **6. CORRECTIVE ACTION**

If error occurred on soft switch, then diagnose the faulty processor. If the error occurred on the active CU, input/output (I/O) may have been impaired. In this case, consider switching processors (if automatic recovery has not done so already), and diagnose the faulty CU.

**PRM:E5xx-26xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 26yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Soft switch failure due to bad cache.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = The soft switch attempt failed due to a cache problem. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = The line the failure was at.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This error can occur during soft switch if a discrepancy exists in which the kernel and interrupt stacks are being kept (memory or cache) between the active and standby processors. This error usually indicates a hardware problem with the cache.

## **6. CORRECTIVE ACTION**

Ensure that physical cache equipage and the equipment configuration database (ECD) agree. If they do agree, diagnose the faulty CU.

**PRM:E5xx-27xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 27zz 0000 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Soft switch failure due to timeout.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Function number. The soft switch attempt in this function failed due to a lack of response from the standby processor. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The processor being switched to did not respond in the required time-out interval. The on-line processor will abort the soft switch.



## **6. CORRECTIVE ACTION**

Diagnose the faulty processor.

**PRM:E5xx-28xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 28zz 0000 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Soft switch failure - control unit (CU) was not in update.

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Function number where the soft switch attempt failed because the control units were not in update. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The update bit in the system status register (SSR) (bit 19) was not asserted when the switch request was received. This bit must be asserted at the time of the switch request since the unasserted state indicates the main store of the

standby processor is not in sync with the main store of the active processor.

## **6. CORRECTIVE ACTION**

Diagnose the faulty processor.

**PRM:E5xx-29xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 29xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

An error interrupt has been received, while the control unit (CU) in the initialization state.

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number where error interrupt occurred in function number shown at x.

z = Error type. Valid values are:

0001 = Segment index too large.

0002 = Segment index invalid.

0004 = Page index too large.

|      |                                                                           |
|------|---------------------------------------------------------------------------|
| 0008 | = Page index invalid.                                                     |
| 000B | = Invalid maintenance channel order.                                      |
| 000C | = Other store error A.                                                    |
| 000D | = Other store error D.                                                    |
| 000E | = Other store error C.                                                    |
| 000F | = Other store timeout.                                                    |
| 0010 | = Input/output (I/O) channel error.                                       |
| 0011 | = 3/6 main channel I/O response error.                                    |
| 0012 | = 3/6 main channel address sequencing error.                              |
| 0013 | = Parity divert error (usually I/O bad parity).                           |
| 0014 | = My store refresh parity error.                                          |
| 0015 | = Address translation buffer (ATB) protection violation.                  |
| 0016 | = ATB page fault.                                                         |
| 0019 | = My store out of range address.                                          |
| 0018 | = Other store out of range address.                                       |
| 0019 | = Instruction privilege violation.                                        |
| 001A | = Addressing violation, byte or halfword.                                 |
| 001B | = Illegal operand - there is no corresponding bit in error register.      |
| 001C | = Illegal opcode - there is no corresponding bit in error register.       |
| 001D | = Illegal stack switch - there is no corresponding bit in error register. |
| 001E | = No interrupt source present when microcode interrupt handler entered.   |
| 001F | = CC_IADDR, CC_PDVT, CC_IORSP; used to clear multiple I/O errors.         |
| 0032 | = Error interrupt with no error register bit set.                         |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

When processing an error interrupt, the current state of the CU is checked. If it is in the initialization state, then information about cause of error interrupt is printed by this PRM.

## **6. CORRECTIVE ACTION**

None.

**PRM:E5xx-30xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da 30ww xxxx yyzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Unable to return the busy bit for the specified channel.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

x = Line number where the error is found.

y = Direct memory access (DMA) number.

z = Channel number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The error interrupt handler (EIH) was invoked to handle a DMA error. As part of the recovery, EIH attempted to set the busy bit in the DMA status register for the dual serial channel (DSCH). This attempt failed due to some hardware error. The busy bit is set only for the channel that is not in error and that which was busy prior to this error.

## **6. CORRECTIVE ACTION**

None. Subsequently, this failure will result in a complete recovery by resetting the direct memory access controller (DMAC).



**PRM:E5xx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Disk data (previously known as all-seems-well function).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

- x = Last two hexadecimal digits of sequence number that is part of postmortem dump.
- y = Boot device *n* status, where *n* is an odd-numbered MHD in the range H'1 through H'F. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- z = Boot device *n* status, where *n* is an even-numbered MHD in the range H'0 through H'E. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated when this process (step) has successfully completed execution.

## 6. CORRECTIVE ACTION

None.

**PRM:E5xx-E0xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da E0zz 0000 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

alocmsg failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The alocmsg operating system trap (OST) returned a fail indicating that no message buffers were available. This will probably result in a phase 1.

## **6. CORRECTIVE ACTION**

None.

**PRM:E5xx-E1xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da E1yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Queuing a message failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function queuemn returned a failure. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number within the function at which the error occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The queuemn operating system trap (OST) returned a failure. This indicates that no more messages can be sent to

a given process.

**6. CORRECTIVE ACTION**

None.

**PRM:E5xx-E7xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da E7ww xxxx yyzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

De-escalate operating system trap (OST) successfully completed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Function number, which should always be function number 27 (de-escalate).

x = Line number within function.

y

**5. EXPLANATION**

The application integrity monitor (AIM) can request EIH to de-escalate the operating system and application initialization level counters in order to control the next initialization level, should one occur between the time the OST is called and the end of the initialization interval. This PRM is output so field support personnel can identify the

occurrence of the de-escalation event and identify the level that was requested. The existence of this PRM will help in the analysis of the events happening in an installation that is experiencing initialization level escalations.

## **6. CORRECTIVE ACTION**

None. This is an informative PRM only.



**PRM:E5xx-E8xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da E8xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure to identify the active maintenance teletypewriter (MTTY) or the active receive-only printer (ROP) in the unit control block (UCB) records. While administering off-line boot, the error interrupt handler (EIH) encountered an error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within the function) at which EIH called a phase.

z = Reason code for the failure. Valid values are:

0000 = device is DEV\_MTTY

0001 = device is DEV\_ROP

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

After sequencing through the UCB records, looking for either the MTTY or ROP in the active state (S\_ACT), none was found. If an off-line boot is in progress, this results in an automatic rollback or termination of the off-line boot.

## 6. CORRECTIVE ACTION

The processor may continue functioning even though the data in the equipment configuration database (ECD) contains errors.

If the system was in the off-line boot mode, restore the MTTY or ROP and start off-line boot again.

**PRM:E5xx-ECxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da ECxx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

add\_rm\_log() failed to send a message to the coordinated spooler output process (CSOP) to inform it about class record changes, or failed to insert the off-line boot log (OLBLOG) device record into the class record.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid value are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid value are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within the function) at which EIH called a phase.

z = Reason code for the failure. Valid value are:

0000 = After inserting OLBLOG, the message cannot be sent to CSOP.

0001 = After removing OLBLOG, the message cannot be sent to CSOP.

0002 = There is no space available to insert the OLBLOG device record.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM prints for the following reasons: a failure to obtain the CSOP's process ID (PID), a failure to allocate a message buffer, or a failure to queue a message.

An off-line boot will proceed without a log file on the off-line side.

## 6. CORRECTIVE ACTION

None.

**PRM:E5xx-EExx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da EExx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Send\_tty() failed to send a message to the coordinated spooler output process (CSOP) to inform it about device record changes.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within the function) at which EIH called a phase.

z = These digits indicate when the problem occurred. Valid values are:

0000 = After changing the device record to send the output to a designated teletypewriter (TTY), EIH cannot inform the CSOP about the device record change.

0001 = After changing the device record to send the output back to the receive-only

printer (ROP), EIH cannot inform the CSOP about the device record change.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

This PRM is printed for the following reasons: a failure to obtain CSOP's process ID (PID), a failure to allocate a message buffer, or a failure to queue a message.

## **6. CORRECTIVE ACTION**

None.

**PRM:E5xx-F0xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da F0xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failed to send a message to the real-time status (RTS) process to inform it about a change of status to UNEQUIP for a maintenance teletypewriter (MTTY), receive-only printer (ROP), switching control center (SCC) or scanner and signal distributor (SCSD) device.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number where error interrupt occurred in function number shown in variable x.

z = Reason problem occurred. Valid values are:

0000 1 = RTS is not attached to its port.

FFFF 1 = Cannot allocate memory for message.

2000 1 = RTS cannot queue more messages.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## **5. EXPLANATION**

Cannot tell RTS to update display for MTTY, ROP, SCC, or SCSD.

## **6. CORRECTIVE ACTION**

Restart RTS if not in disk independent operation (DIOP).



**PRM:E5xx-F1xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E5da F1zz zzzz zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure to send a PRM message to the system integrity monitor (SIM) due to lack of message buffers.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = The PRM that could not be sent to SIM.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Some PRMs are sent to SIM in the form of messages. If no message buffers are available, this PRM is printed indicating that another PRM was to be output by SIM, but no message buffers were available.

**6. CORRECTIVE ACTION**

The system has run out of message buffers. Changes to system resource allocation may be necessary if the problem persists.

To analyze the PRM contained in this message, ignore digits 4 and 5 (F1) and use digits 6 through 15 (dd dddd dddd) as if they were digits 4 through 13 of an E5 EIH PRM.

For example, the next paragraph explains how to interpret the following PRM:

E512 F106 3456 7891 23 45 67

Ignore the F1 and refer to the EIH PRM PRM:E5xx-06xx. In this example, SIM could not print the E5xx-0634 PRM and you would refer to the PRM:E5xx-06xx manual page for additional information.

**8. E6xx-0000 — E7xx-FFFF**

**PRM:E6xx-100x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 100d xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Disk driver memory and data initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = First error encountered.

y = Second error encountered.

z = Third error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The disk driver was gathering information to build internal tables, initialize variables, attach to system resources, and so forth. One of the functions returned a failure. The failure may be the result of bad data or faulty hardware. Certain driver actions are based on data received from the equipment configuration database (ECD) and that data may be incorrect.

The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error is the actual failure; the second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. If software/data malfunction is implicated, the problem could be in ECD access, ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-20xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 20wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a disk file controller (DFC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = This value is found in the "internal\_device" field in the DFC's UCB record.

x = First error encountered.

y = Second error encountered.

z = Third error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The disk driver unit restore sequence involving the indicated DFC has failed. Moving head disk (MHD) hardware is not involved. Direct memory access controller (DMAC) or dual serial channel (DSCH) initialization may have failed. If this DFC is selected as part of the BOOT device complex, then the cause may be equipment configuration database (ECD) data. This is because the disk driver is the first software in the boot sequence to use ECD data in the accessing units. Prior to the disk driver, hard-coded addresses were used to access the DMAC and the DFC.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the 3B20 Computer recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the DMAC, DSCH, DSCH cable, or the circuit boards comprising the DFC. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-30xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 30wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value

t = SBUS internal\_device value



|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 0 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-31xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 3lwx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value

t = SBUS internal\_device value

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 1 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-32xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 32wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 2 (DFC 2).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value

t = SBUS internal\_device value

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 2 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-33xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 33wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 3 (DFC 3).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value

t = SBUS internal\_device value

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 3 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-34xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 34wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 4 (DFC 4).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value.

t = SBUS internal\_device value.



|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 4 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-35xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 35wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 5 (DFC 5).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value

t = SBUS internal\_device value

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 5 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-36xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 36wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 6 (DFC 6).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value.

t = SBUS internal\_device value.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 6 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-37xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 37wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 7 (DFC 7).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value.

t = SBUS internal\_device value.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 7 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-40xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 40xx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Disk driver memory initialization based on equipment configuration database (ECD) information.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = The 16 least significant bits of the ECD record identifier (RID) the disk driver was processing.

**NOTE:** the RID is in hexadecimal notation.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## 5. EXPLANATION

The disk driver was processing the specified RID which it got from the ECD. The RID is used to obtain a database record and the information in the record is used to extract other database records. The cntrl\_0 (l\_up0) field in the unit control block (UCB) record is used to traverse these records. Information in any of these records may have faulty data, but only the RID of the initial UCB record is output in the PRM.

If the specified RID is for a moving head disk (MHD), then the progression is from MHD to SBUS [if small computer system interface (SCSI)], to disk file controller (DFC). If the specified RID is for an SBUS, then the progression is from SBUS to DFC. If the specified RID is for a DFC, the progression is from DFC to channel (CH).

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

The first error is the actual error; the second and third errors provide more information that helps to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the 3B20 computer recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. If software/data malfunction is implicated, the problem could be in ECD access, ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-60x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 60w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of disk file controller (DFC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = This value is found in the "internal\_device" field in the DFC's unit control block (UCB) record.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to the DFC has been returned with a failing completion code. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the direct memory access controller (DMAC), dual serial channel (DSCH), DSCH cable, or the circuit board comprising the DFC. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-70x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 70w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value.

t = SBUS internal\_device value.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = Job completion code.                                                                                                                                |
| y | = First error encountered.                                                                                                                            |
| z | = Second error encountered.                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver unit restore sequence for the indicated MHD under DFC 0 has failed. The DFC, and the MHD's SBUS (if SCSI) has been successfully restored prior to this MHD restore attempt. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI) restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-71x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 71w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 1 (DFC1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. A non-fatal error was encountered which should not affect system operation.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value.

t = SBUS internal\_device value.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = Job completion code.                                                                                                                                |
| y | = First error encountered.                                                                                                                            |
| z | = Second error encountered.                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver unit restore sequence for the indicated MHD under DFC 1 has failed. The DFC, and the MHD's SBUS (if SCSI) has been successfully restored prior to this MHD restore attempt. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI) restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E6xx-72x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 72w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 2 (DFC2).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC2.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## 5. EXPLANATION

A disk driver job submitted to DFC2 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard-coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:E6xx-73x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 73w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 3 (DFC3).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC3.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to DFC3 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard-coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:E6xx-74x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 74w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 4 (DFC4).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC4.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to DFC4 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard-coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:E6xx-75x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 75w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 5 (DFC5).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC5.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to DFC5 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard-coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:E6xx-76x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 76w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 6 (DFC6).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC6.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## 5. EXPLANATION

A disk driver job submitted to DFC6 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard-coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:E6xx-77x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da 77w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 7 (DFC7).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC7.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to DFC7 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:E6xx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E6da DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Disk driver all-seems-well.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

|   |                                                                                                                                                                                                                                            |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = Last two hexadecimal digits of sequence number that are part of postmortem dump.                                                                                                                                                         |
| y | = Boot device <i>n</i> status, where <i>n</i> is an odd-numbered MHD in the range H'1 through H'F. Valid values are:<br><br>BD <i>n</i> = Boot device <i>n</i> is active.<br><br>000                = Boot device <i>n</i> is not active.  |
| z | = Boot device <i>n</i> status, where <i>n</i> is an even-numbered MHD in the range H'0 through H'E. Valid values are:<br><br>BD <i>n</i> = Boot device <i>n</i> is active.<br><br>000                = Boot device <i>n</i> is not active. |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.                                                                                      |

## 5. EXPLANATION

This PRM results when the disk driver reports to system integrity monitor (SIM) that the driver has completed its initialization step with no fatal errors.

## 6. CORRECTIVE ACTION

None.

**PRM:E7xx-010x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 010x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The IOP driver has been faulted.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Valid values are:

| If "z" =           | "x" =                                                                                                                                                      |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 00C5, 00C6 or 00C7 | Device type of faulty unit. (Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual for device types.)                             |
| 00CB or 00E2       | The device type or zeros. If zeroes, it can be ignored. (Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual for device types.) |

y = Valid values are:

| If "z" =           | "y" =                                                   |
|--------------------|---------------------------------------------------------|
| 00C5, 00C6 or 00C7 | Unit number of faulty unit.                             |
| 00CB or 00E2       | The unit number or zeros. If zeroes, it can be ignored. |

|   |                                                                                                                                                       |                                                                                                                                                 |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| z | = Faults reported. Valid values are:                                                                                                                  |                                                                                                                                                 |
|   | 00C5                                                                                                                                                  | = A fault has been logged against a unit that has an out-of-service (OOS), but usable mate. The IOP driver attempts to restore the faulty unit. |
|   | 00C6                                                                                                                                                  | = A fault has been logged against a unit that has an OOS, but unusable mate. The IOP driver attempts to restart the faulty unit.                |
|   | 00C7                                                                                                                                                  | = A fault has been logged against a unit which has no mate. The IOP driver attempts to restart the faulty unit.                                 |
|   | 00CB                                                                                                                                                  | = A routine soft-switch fault has been received. The IOP driver should never receive this fault; doing so implies a structural failure.         |
|   | 00E2                                                                                                                                                  | = A critical system initialization fault has been received. This usually occurs in response to a phase 1.                                       |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |                                                                                                                                                 |

## 5. EXPLANATION

None.

## 6. CORRECTIVE ACTION

For PRMs with values 00C5, 00C6, or 00C7, the mate unit should be restored to service after which the faulty unit should be diagnosed and restored to service. For the other PRMs, no recovery action is indicated.

**PRM:E7xx-020x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 020x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

An attempt to pump microcode from the disk to a peripheral controller (PC) has failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Device Type. (Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual for device types.)

y = Device number.

z = Reason for failure. Valid values are:

07F6 = Common file reader (CFR) internal state invalid.

07F7 = Timeout threshold exceeded. Message sent by CFR to file manager (FMGR) not acknowledged.



|      |                                                                                                                                                                          |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 07F8 | = CFR unable to get segment number of segment containing buffer allocated for pump code.                                                                                 |
| 07F9 | = CFR unable to set timer.                                                                                                                                               |
| 07FA | = CFR unable to get message buffer to send message to FMGR.                                                                                                              |
| 07FB | = CFR unable to read pump file because the maximum number of files that can concurrently be brought into main store has been reached.                                    |
| 07FC | = CFR temporarily unable to handle a request to read a pump file because the maximum number of concurrent requesters that can be queued for pump files has been reached. |
| 07FD | = CFR unable to read the disk.                                                                                                                                           |
| 07FE | = CFR unable to open appropriate disk microcode file.                                                                                                                    |
| 07FF | = CFR unable to allocate buffer for pump code.                                                                                                                           |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

None.

## 6. CORRECTIVE ACTION

The most common error is 07FE which usually indicates a missing microcode file or a file with insufficient access permissions. Ensure that all microcode files are properly named and have read access. Other error types usually indicate transitory problems; retry the appropriate restore (RST) input message. Refer to the Input Messages manual, 235-600-700.

**PRM:E7xx-030x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 030x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

An attempt to grow a segment of the main store at boot time has failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = IOP device type. (Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual.)

y = Unit number.

z = Reason for failure. Valid values are:

0001 = Repeated requests for the main memory required for IOP support data structures have failed.

0002 = After a single failure to obtain main memory for an IOP support data structure, the necessary information to repeat the request was not found.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

| If 'z' = | Explanation:                                                       |
|----------|--------------------------------------------------------------------|
| 0001     | There is insufficient main memory to initialize all required IOPs. |
| 0002     | An IOP driver software problem.                                    |

## 6. CORRECTIVE ACTION

Supply more main memory to initialize all required IOPs.

**PRM:E7xx-040x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 040x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The IOP driver encountered severe problems during the boot sequence.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = IOP device types. (Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual.)

y = Unit number. It is possible that no IOP or associated device could be restored.

z = Reason for failure. Valid values are:

0105 = Can not obtain list of IOPs from equipment configuration database (ECD). Verify that all proper forms exist for each IOP.

0106 = Can not attach to ECD. Verify correct initialization of ECD segments.

|      |                                                                                                                                                                                                                                                                                                      |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0107 | = Can not attach to correct port. See 0109.                                                                                                                                                                                                                                                          |
| 0108 | = Can not obtain internal PC audit timer. Software problem.                                                                                                                                                                                                                                          |
| 0109 | = Can not attach to any port. Verify no other application process uses the IOP driver port as specified in the unit control block (UCB) in the ECD for each IOP. If this checks out, a software problem is indicated.                                                                                |
| 010A | = Can not obtain internal peripheral interface controller (PIC) babble timer. Software problem.                                                                                                                                                                                                      |
| 0401 | = Can not initialize direct memory access controller (DMAC) random access memory (RAM) for a particular IOP identified by the unit number and device type fields. Verify that the IOP UCB in the ECD contains the correct address for the DMAC. If this checks out, a hardware problem is indicated. |
| 0402 | = The pointer to the extended map pointer table has a bad virtual address. There is a software problem.                                                                                                                                                                                              |
| 0403 | = The extended map pointer table has a bad virtual address. There is a software problem.                                                                                                                                                                                                             |
| 0505 | = Can not get list of IOPs in initdb() function.                                                                                                                                                                                                                                                     |
| 0506 | = Can not attach to ECD database.                                                                                                                                                                                                                                                                    |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

None.

## 6. CORRECTIVE ACTION

For error codes 0108, 010A, and 010B, all errors will preclude a successful boot. For all other error codes refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E7xx-050x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 050x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

An attempt to restore an IOP to service has failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = IOP device types (Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual.)

y = Device number. It is possible that no IOP or associated device could be restored.

z = Reason for failure. Valid values are:

1300 = Unable to reset peripheral interface circuit (PIC).

1303 = Unable to set PIC interface enable.

1306 = Unable to send PIOINIT to PIC.

1307 = Unable to enable PIC interrupts.

1308 = Unable to clear D2SBS.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

Code 1308 is most often received in response to loss of power at the IOP. All others indicate a hardware or software problem.

## 6. CORRECTIVE ACTION

Replace the PIC and attempt to diagnose and restore. If this fails, the problem may reside in the channel or the IOP driver. Refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E7xx-0600****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 0600 0000 zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The IOP has been faulted and is performing a complete software reinitialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Faults reported. Valid values are:

00D1 = The IOP driver faulted because a page index was invalid or was not in memory.

00D2 = The IOP driver faulted because a page index was too large.

00D3 = The IOP driver faulted because a segment index was invalid.

00D4 = The IOP driver faulted because a segment index was too large.

00D5 = The IOP driver faulted because a bad operating system trap (OST) was issued to the kernel.



|      |                                                                                                                                                                       |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 00D6 | = The IOP driver faulted because an attempt was made to write to a protected segment.                                                                                 |
| 00D7 | = The IOP driver faulted because a byte or halfword addressing violation occurred.                                                                                    |
| 00D8 | = The IOP driver faulted because a privileged instruction was attempted.                                                                                              |
| 00D9 | = The IOP driver faulted because the data in the instruction buffer did not correspond to a valid instruction.                                                        |
| 00E1 | = The IOP driver faulted because a system initialization occurred. This fault code will usually appear only if a phase 1 occurred while the IOP driver was executing. |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The complete reinitialization takes time, so several minutes should be allowed for the process to complete.

## 6. CORRECTIVE ACTION

None.

**PRM:E7xx-0800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 0800 0000 zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The IOP cannot grow a unit during boot or a software reinitialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Problem encountered. (Refer to the APP:IODRV-ERROR appendix in the Appendixes section of the PRM manual for an explanation of the code.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

**6. CORRECTIVE ACTION**

None.

**PRM:E7xx-0F0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 0F0x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The IOP driver has tried repeatedly to restart a faulty duplexed essential unit whose mate is out-of-service (OOS), but all such attempts have failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = IOP device type. (Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual.)

y = Unit number.

z = Reason for failure. Valid values are:

00C5 = Mate unit was marked OOS and usable.

00C6 = Mate unit was marked OOS and unusable.

00C7 = Mate unit not available.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The system will be phased by the IOP driver following the issuance of this PRM.

## 6. CORRECTIVE ACTION

Diagnose indicated unit and its mate, if possible. Repair unit and restore to service. If system is going through rolling phases, a manual reboot may be required.

**PRM:E7xx-200x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 200x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

This PRM code is printed out when a switchable subdevice cannot connect to any peripheral controller (PC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

y = Unit number.

z = Failure reason. Valid values are:

0000 = Port switch attempts exceed threshold.

0001 = Port switch fails because of DTR time-out.

0002 = Port switch fails because of hardware switching time-out.

- 0003 = Cannot obtain port switch subdevices for PC report in user initialization.
- 0005 = Port switch fails because the device to which a port switch is being done is in the wrong state.
- 0007 = Port switch fails because could not get a unit mate for the switchable device.
- 0009 = Port switch fails because could not get the unit control block (UCB) of the switchable device.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

None.

## 6. CORRECTIVE ACTION

Manually restore the PCs if they are out of service (OOS). If the subdevice does not connect to one of the controllers at this time, the physical device is off-line or has operationally failed. Check all physical devices configured to the portswitch to make sure they are on-line. If a subdevice is on-line but does not appear operational, take appropriate action to have the subdevice examined.

**PRM:E7xx-2100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 2100 0000 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

This PRM code is printed out when user-initialization is requested with the system in full disk independent operation (DIOP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

**6. CORRECTIVE ACTION**

User-initialization is not allowed in full DIOP.





**PRM:E7xx-500x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 500y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The data link cannot establish communication at protocol level 2.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type. Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual.

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Verify that the dcedte value in the data link communication protocol option block in the equipment configuration database (ECD) and the line address value at the remote station are correct.

**PRM:E7xx-510x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 510y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Cannot establish communication at protocol level 2 in any one of the data links in a duplex pair.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Verify remote station is operational or data link telecommunications equipment at local and remote stations is operational. If not able to recover, contact a data link telecommunications expert.

**PRM:E7xx-520x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 520x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Insufficient memory to allocate buffers for the number of virtual channels requested for a data link.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

y = Unit number.

z = These bits better indicate the reason of failure. Valid values are:

0001 = Failed to obtain the option block record to calculate the required memory.

0002 = SMC failed to obtain this requested memory.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Decrease the number of virtual channels requested or the protocol level 3 window size in the data link communication protocol option block in the equipment configuration database (ECD).

**PRM:E7xx-530x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 530y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Data link cannot establish communication at protocol level 3.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.



## **6. CORRECTIVE ACTION**

Verify remote station is operational. If not able to recover, contact a data link telecommunications expert.

**PRM:E7xx-540x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 540y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

No segment available for the common segment. Therefore, no data links will be restored.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## 6. CORRECTIVE ACTION

None.

**PRM:E7xx-550x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 550y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

No cells available in the common segment. The current restore will fail; however, an attempt is made to correct the situation.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Attempt the aborted restoration again.

**PRM:E7xx-560x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 560y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

An inconsistency has occurred between the information in the common segment and the information passed by the input/output driver (IODRV) memory facility. The current restoration operation will fail.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual.)

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Perform a reboot to clean up the memory control table.

**PRM:E7xx-570x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 570y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The data link cannot establish communication at protocol level 2 due to a conflict in line address.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.



## **6. CORRECTIVE ACTION**

Verify that the dcedte value in the data link option block in the equipment configuration database (ECD) and the line address value at the remote station are correct.

**PRM:E7xx-580x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 580y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Failure to get the peripheral controller subdevice (PCSD) option block record from the equipment configuration database (ECD) during a grow PCSD for a data link.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Memory for scratch space and buffers is required when a unit is grown. Memory requirements information is contained in the PCSD option block record.

## **6. CORRECTIVE ACTION**

Degrow the unit. Verify that the unit control block (UCB) option-name field contains the correct option block name and that the option block is correct. Grow the unit, put it into the out-of-service state, and restore it.

**PRM:E7xx-590x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 590y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Failure to obtain the segment identifier (ID) and page table address for the data link buffer memory.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The buffer memory can be used for data exchange.

## **6. CORRECTIVE ACTION**

Degrow the unit and attempt to grow the unit again.

**PRM:E7xx-5A0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 5A0y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Failure to acquire scratch space and buffer memory for a data link.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Decrease the number of virtual channels requested or the protocol level 3 window size in the data link option block in the equipment configuration database (ECD).

**PRM:E7xx-5B0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 5B0y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Failure to obtain a timer element from the IOP driver timing chain for a data link.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The timer element is used for packet layer (protocol level 3) timers. Absence of the timer element will cause



unstable packet layer performance.

## **6. CORRECTIVE ACTION**

Attempt a manual remove and restore of the unit.

**PRM:E7xx-700x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 700y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The input/output driver (IODRV) memory facility is unable to dynamically add a segment. This indicates either there is no available room in the memory control table or the memory control table information is inconsistent with the message acknowledgment received.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Perform a reboot to clean up the memory control table.

**PRM:E7xx-710x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 710y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The input/output driver (IODRV) memory facility is unable to dynamically grow a segment. This indicates either there is no available room in the memory control table, or the memory control table information is inconsistent with the message acknowledgment received.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Perform a reboot to clean up the memory control table.

**PRM:E7xx-720x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 720y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

During operations on a segment, either the input/output driver (IODRV) memory facility requested a settle-down timer to allow the system to idle down before attempting a retry or a timer was set to insure the message or its acknowledgment was not lost. Upon firing one of the timers, the memory control table entry for the segment in question is found to be inconsistent. The retry attempt is aborted.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Perform a reboot to clean up the memory control table.

**PRM:E7xx-730x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 730y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Unable to dynamically add a segment due to lack of system resources.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.



## **6. CORRECTIVE ACTION**

Retry the operation which resulted in this PRM. However, additional resources may be needed.

**PRM:E7xx-740x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 740y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Unable to dynamically grow a segment due to lack of system resources.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Retry the operation which resulted in this PRM. However, additional resources may be needed.

**PRM:E7xx-750x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 750y yyzz 0000 hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

There is no available entry in the backup memory control table of the input/output driver (IODRV) memory facility. However, an entry in the memory control table was found. This is inconsistent since each table has the same number of entries. An entry is needed in each table for each dynamically added segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

z = Unit number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Attempt a reboot to clean up the memory control table.

**PRM:E7xx-80xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 80yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Fail to clear bus interface controller (BIC) during a restore of an IOP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Logical unit number.

z = Dual serial channel driver kernel process (DSCH) status. Refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for definition of the status bits.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A failure return code was obtained when trying to clear the BIC and to reset the peripheral interrupt controller (PIC)

of the indicated unit.

## **6. CORRECTIVE ACTION**

Run diagnostics against the indicated IOP. If the diagnostics cannot identify the faulty circuitry or if running the diagnostics is not possible, the following components are suspect. The most suspect is given first.

- Bus interface circuit (BIC).
- Duplex dual serial bus selector (DDSBS).
- Peripheral interface circuit (PIC).

**PRM:E7xx-83xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 83yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Fail to enable bus interface circuit - peripheral interface circuit (BIC-PIC) interface during a restore of an IOP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Logical unit number.

z = Dual serial channel driver kernel process (DSCH) status. Refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for definition of the status bits.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A failure return code was obtained when trying to clear the BIC-PIC interface.



## **6. CORRECTIVE ACTION**

Run diagnostics against the indicated IOP. If the diagnostics cannot identify the faulty circuitry or if running the diagnostics is not possible, the BIC-PIC are suspect components causing the problem. The former is more suspect.

**PRM:E7xx-86xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 86yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Failed to send peripheral input/output initialization (PIOINIT) to an IOP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Logical unit number (IOP).

z = Dual serial channel driver kernel process (DSCH) status. Refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for definition of the status bits.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A failure return code was obtained when trying to send PIOINIT to the IOP.

## 6. CORRECTIVE ACTION

Run diagnostics against the indicated IOP. If the diagnostics cannot identify the faulty circuitry or if running the diagnostics is not possible, the following components are suspect. The most suspect is given first.

- Peripheral interface circuit (PIC).
- Bus interface circuit (BIC).
- Duplex dual serial bus selector (DDSBS).
- Channel address and/or device address which are in the u\_addr field of the unit control block (UCB) record for the implicated IOP. They are CHANNELNUM field and DEVICENUM field in the UCB form, respectively.

**PRM:E7xx-87xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 87yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Fail to enable interrupt during a restore of an IOP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Logical unit number (IOP).

z = Dual serial channel driver kernel process (DSCH) status. Refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for definition of the status bits.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A failure return code was obtained when trying to enable interrupt of the implicated IOP.

## 6. CORRECTIVE ACTION

Verify the interrupt vector information (ivec) for the indicated IOP which includes:

- Interrupt source which is in the u\_intrpt field of the unit control block (UCB) record of the channel to which the IOP is attached. (INTERRUPTNUM field in the UCB form).
- Channel ID which is in the u\_did field of the UCB record of the channel to which the IOP is attached. (INTERNALDEVICE field in the UCB form).
- Device address which is in the device\_addr field of the UCB record of the implicated IOP. (DEVICENUM field in the UCB form).

**PRM:E7xx-88xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 88yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

Fail to clear duplex dual serial bus selector (DDSBS) during a restore of an IOP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Logical unit number.

z = Dual serial channel driver kernel process (DSCH) status. Refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for definition of the status bits.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A failure return code was obtained when trying to clear DDSBS. This PRM is most often received in response to loss

of power.

## **6. CORRECTIVE ACTION**

If a failure is due to loss of power at the IOP, determine if a fuse needs to be replaced or reset or if the power switch needs repair.

Run diagnostics against the indicated IOP. If the diagnostics cannot identify the faulty circuitry or if running the diagnostics is not possible, the following components are suspect causing the problem with the most suspect given first.

- DSCH cable and/or connections.
- DDSBS.
- DSCH.
- If possible, the device and/or the channel address specified in the equipment configuration database (ECD) for the implicated IOP is not correct.

**PRM:E7xx-90D5****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 90D5 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The IOP driver has made a bad\_ost fault.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Program address at which the bad\_ost fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A software problem occurred within the IOP driver.

**6. CORRECTIVE ACTION**



After this PRM is sent to the receive-only printer (ROP), the IOP driver takes the necessary recovery action to eliminate the bad\_ost and then forwards the PRM to the software administrator for further fault prevention.

**PRM:E7xx-91xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da 91yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The IOP has been faulted and is performing a complete software reinitialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Faults reported. Valid values are:

D1 = The IOP driver faulted because a page index was invalid or was not in memory.

D2 = The IOP driver faulted because a page index was too large.

D3 = The IOP driver faulted because a segment index was invalid.

D4 = The IOP driver faulted because a segment was too large.

D6 = The IOP driver faulted because an attempt was made to write to a protected segment.

- D7 = The IOP driver faulted because a byte or half-word addressing violation occurred.
- D8 = The IOP driver faulted because a privileged instruction was attempted.
- D9 = The IOP driver faulted because the data in the instruction buffer did not correspond to a valid instruction.

z = Program address where the fault occurred in the input/output driver (IODRV).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The complete reinitialization takes time, so several minutes should be allowed for the process to complete.

## 6. CORRECTIVE ACTION

The receive-only printer (ROP) output and input/output log files can be helpful in determining the problem. Input/output log files are /etc/log/IODRVLOG0 and /etc/log/ IODRVLOG1. Forward the printout of the log files and the ROP to the software administrator.

**PRM:E7xx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E7da DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The IOP driver all-seems-well.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = Valid values are:

A = Nonmanually initiated maintenance reset functions (MRFs).

0 = Manually initiated MRFs.

- x = Last two hexadecimal digits of sequence number that is part of postmortem dump.
- y = BD<sub>n</sub> when boot MHD <sub>n</sub> is active and 000, where <sub>n</sub> is an odd-numbered MHD in the range of H'1 through H'F.
- z = BD<sub>n</sub> when boot MHD <sub>n</sub> is active and 000, where <sub>n</sub> is an even-numbered MHD in the range of H'1 through H'F.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The PRM is generated when the IOP driver reports to the system integrity monitor (SIM) that the driver has completed its initialization with no fatal errors.

## 6. CORRECTIVE ACTION

None.

## 9. E8xx-0000 — EAxx-FFFF

**PRM:E8xx-00xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E8da 00xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

The file system mount/unmount completed successfully.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Status of mount or unmount. Valid values are:

1 = Mount completed.

2 = Unmount completed.

y = Partition number.

z = mdct-rid of the partition.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definitions of the digits.

## **5. EXPLANATION**

The file manager mount/unmount completed successfully.

## **6. CORRECTIVE ACTION**

None.



**PRM:E8xx-0Exx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E8da 0Eyy zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

File system management.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Partition.

z = The mdct-rid value of the file system which was mounted.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

During the mount of a file system, a table is updated which is used to report what file systems are mounted. That table contained no vacant entries in which to place the current mounted path name.

## **6. CORRECTIVE ACTION**

None.

**PRM:E8xx-0Fxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E8da 0Fyy zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

File system management.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Partition.

z = The mdct-rid value of the file system which was unmounted.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

During the unmount of a file system, a table is updated which is used to report what file systems are mounted. That table contained no entry which corresponded to the file system being unmounted.

## 6. CORRECTIVE ACTION

None.

**PRM:E8xx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E8da DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Disk data (previously known as all-seems-well function).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

- x = Last two hexadecimal digits of sequence number that is part of postmortem dump.
- y = Boot device *n* status, where *n* is an odd-numbered MHD in the range H'1 through H'F. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- z = Boot device *n* status, where *n* is an even-numbered MHD in the range H'0 through H'E. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated when this process (step) has successfully completed execution.

## 6. CORRECTIVE ACTION

None.

**PRM:E9xx-0A00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 0A00 yy00 zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Error return from iorint.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Channel number being read.

z = Channel status.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Reading the dual serial channel using the I/O instruction iorint[, an abnormal status was returned. This stopped the operating system from determining the interrupting channel.

Routine - kernel - rdschi( ).

## **6. CORRECTIVE ACTION**

None.



**PRM:E9xx-0B00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 0B00 yy00 zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Abnormal return from iorsr.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Channel number being read.

z = Channel status.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Reading the dual serial channel using the I/O instruction iorsr|, an abnormal status was returned.

Routine - kernel - rdschsr( ).

## **6. CORRECTIVE ACTION**

None.

**PRM:E9xx-0C0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 0C0w xxyy zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Abnormal return from wtmsk.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Action type. Valid values are:

0 = Enable.

1 = Disable.

x = Channel number being written.

y = Device being masked.

z = Dual serial channel status [if zero, a direct memory access (DMA) timeout occurred].

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

An error occurred when writing the dual serial interrupt mask using the wtmsk[.

Routine - kernel - cdschim( ) or scsdchim( ).

## 6. CORRECTIVE ACTION

None.

**PRM:E9xx-0D0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 0D0w xxyy zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Abnormal return from wtmsk. In the 3B20D administrative module (AM), the PRM is printed when an error or timeout occurs from wtmsk. In the 3B21D AM, the PRM is printed when an error occurs from wtmsk.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Action type. Valid values are:

0 = Enable service request mask.

1 = Disable service request mask.

2 = Disable both.

3 = Enable both.

4 = Update interrupt mask.

5 = Update service request mask.

x = Channel number being written.

y = Device being masked. If the value of w is 4 or 5, y is always 00.

z = Channel status.

For the 3B20D AM, if z is zero, a direct memory access (DMA) timeout occurred.

For the 3B21D AM, no PRM is printed if a DMA timeout occurs. If a DMA timeout occurs and w equals 2 or 3, the system takes a level 1 phase. If a DMA timeout occurs and w equals 4 or 5, FAIL is returned.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

An error occurred when writing the dual serial service request mask using the wtmsk].

Routine - kernel - cdschsrn( ), sdschsrn( ), set\_both( ), clr\_both( ), setboth21( ), clrboth21( ), wt\_intmsk21( ), or wtsrmsk21( ).

**NOTE:** set\_both( ) and clr\_both( ) apply only to the 3B20D AM. setboth21( ), clrboth21( ), wt\_intmsk21( ), and wtsrmsk21( ). apply only to the 3B21D AM.

## 6. CORRECTIVE ACTION

None.

**PRM:E9xx-0E00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 0E00 xxyy zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Abnormal return from wtmski.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Channel number being written.

y = Device being cleared.

z = Dual serial channel status [if zero, a direct memory access (DMA) timeout occurred].

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An error occurred when clearing the dual serial interrupt mask using wtmski.

Routine - kernel - cldschi( ).

## **6. CORRECTIVE ACTION**

None.



**PRM:E9xx-0F00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 0F00 xxyy zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Abnormal return from wtmskr.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Channel number being written.

y = Device being cleared.

z = The dual serial channel status. [If zero, a direct memory access (DMA) timeout occurred].

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An error occurred when clearing the dual serial service request mask using wtmskr.

Routine - kernel - cldschsr( ).

## **6. CORRECTIVE ACTION**

None.

**PRM:E9xx-1700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 1700 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Incomplete dsksimplex operating system trap (OST) process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The system was in the midst of establishing simplex operation of the operating system disks when the SYSDLM OST was issued.

Not all the swappable disk independent operation (DIOP) essential processes may have been swapped in and made nonswappable.

## **6. CORRECTIVE ACTION**

None.

Not all DIOP services may be available.

**PRM:E9xx-1800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 1800 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Extended main memory backplane wiring enabled, but system has nonextended memory.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Extended main memory backplane wiring is enabled, but the equipment configuration database (ECD) has not been updated to reflect the extended memory. The kernel will disable the logical extended main memory enabled flag and will allow the system to boot without extended main memory.

**6. CORRECTIVE ACTION**

If extended main memory (memory larger than 16 megabytes) is not desired, then the backplane wiring should be disabled. If the main memory is desired, the ECD database must be updated to reflect the extended memory. Also see growth procedures-extended main memory retrofit, in Software Release Retrofit, 235-105-24x, where 'x' stands for the release-specific version of the manual.

**PRM:E9xx-1900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 1900 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

The requested time out interval exceeded the maximum.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = pcode portion of the utility ID of the requesting process.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The time out interval requested by ptimer() exceeded the maximum value set by maxintvl().

**6. CORRECTIVE ACTION**

None.



**PRM:E9xx-1A0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 1A0w xxyy yzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Kernel Service Routines.

**4. PRM EXPANSION**

A message buffer overload condition has been detected. A request has been made to try and eliminate the overload condition by flushing message buffers belonging to a specific process. The PRM is the direct result of a process issuing the ol\_mbflush(4) kernel call.

**5. EXPLANATION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Indicates the action to be taken for the requested message buffer type. Valid values are:

1 = Only the requested message buffer(s) of the specified type are flushed.

2 = All but the specified type of message buffers are flushed.

3 = All messages buffers are flushed.

x = Message type.

y = Number of message blocks freed.

z = Utility identifier (ID) of the process which owns the message buffers being flushed.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of digits.

## 6. CORRECTIVE ACTION

None.

**PRM:E9xx-1B0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 1B0w xxyy zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Failure from rdmsk.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Action type. Valid values are:

2 = Disable both.

3 = Enable both.

4 = Update interrupt mask register.

5 = Update service request mask register.

x = Channel number being read.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| y | = Always 00.                                                                                                                                          |
| z | = Channel status.                                                                                                                                     |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

An error occurred when reading the dual serial service interrupt or service request mask register using the rdmsk.

Routine - kernel - setboth21( ), clrboth21( ), wt\_intmsk21( ), or wtsrmsk21( ).

## 6. CORRECTIVE ACTION

None.

**PRM:E9xx-1Exx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 1Exx yyzz 0000 hh hh hh

**2. PRM SOURCE**

Kernel service routines

**3. FUNCTION**

All processes attaching to the same interrupt source bit must specify the same execution level.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Execution level of the driver that is already attached to the interrupt source bit.

y = Execution level of the driver that is attempting to attach to the interrupt source bit.

z = Interrupt source bit number to which the driver is trying to attach.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

This PRM is printed if a driver is attempting to attach to an interrupt source bit which has another driver with a different execution level already attached to the same bit.

## **6. CORRECTIVE ACTION**

If more than one driver with different execution levels attach to the same interrupt source bit, modify either the execution level of the driver(s) or the interrupt source bit number with associated hardware changes.

If you are not familiar with the execution level of a process, the interrupt source bit number, or the associated hardware changes, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:E9xx-1F00****Software Release:** 5E12 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 1F00 xxxx xxxx hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

A software check for hardware errors in the real time clock has failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = The difference between the current and previous real time clock values.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

To guard against faulty hardware that could result in inaccurate values from the real time clock, the kernel checks the real time clock about every ten Ms. The kernel compares the value of the real time clock with the value saved from the last check. If the difference is greater than 10,000 Ms., then it is possible that there is a faulty hardware board.

## **6. CORRECTIVE ACTION**

If this PRM comes out repeatedly, then switch CUs and run diagnostics on the failing CU.



**PRM:E9xx-7502****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 7502 yy00 0zzz hh hh hh

**2. PRM SOURCE**

Memory manager.

**3. FUNCTION**

Memory manager received software fault.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Fault code.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Memory manager received some sort of software or unexplained fault.

**6. CORRECTIVE ACTION**

Level one phase has been requested.

**PRM:E9xx-7600****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 7600 0000 0000 hh hh hh

**2. PRM SOURCE**

Memory manager.

**3. FUNCTION**

Beginning internal audit of the memory manager's segment I/O activity.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

If the memory manager takes over a specified time to complete a service request, it may indicate that the memory manager has somehow lost track of the number of segments being read or written. This PRM indicates that the memory manager has started an internal audit to ensure that its internal counters agree with the actual I/O activity in progress. A flag is set to trigger an escalated response in the event that the service request does not complete within a specified interval following this action (refer to PRM:E9xx-7700).

## **6. CORRECTIVE ACTION**

None.

**PRM:E9xx-7700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 7700 0000 0000 hh hh hh

**2. PRM SOURCE**

Memory manager.

**3. FUNCTION**

A segment I/O request is stuck, the memory manager is taking drastic action to clean up.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid value are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid value are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This PRM indicates that the memory manager cannot complete a service request due to an inability to complete a segment I/O request (refer to PRM:E9xx-7600). The assumption is that a swap message has been lost, or a swap disk error is preventing the completion of the I/O request. Drastic action is required to clear the problem. I/O status bits will be cleared for all swappable segments. If a segment was being read in, it will be released and unlocked, and the segment status will be set to indicate a swap disk error. This will cause the scheduler to terminate the owner process. If the segment is shared, this bit will not be cleared until all processes sharing the segment are terminated.

## **6. CORRECTIVE ACTION**

If the problem was caused by a disk error, disk diagnostics may provide more information.

**PRM:E9xx-78xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da 78yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Memory manager.

**3. FUNCTION**

Memory manager detected an out-of-range page index within the free page list.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Memory module where the error occurred.

z = The value of the out-of-range page descriptor entry (PDE) index.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for digit definitions.

**5. EXPLANATION**

The page descriptor table (PDT) is an array of page descriptor entries, each of which contains information about a single physical page in the system (refer to head/pde.h).

Pdefree is the index into the PDT of the first free PDE. The occurrence of this PRM indicates that Pdefree contains an incorrect value.

## **6. CORRECTIVE ACTION**

No manual action is needed. The memory manager has re-built the list of free pages and called for an audit of the PDEs.



**PRM:E9xx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p E9da DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Disk data (previously known as all-seems-well function).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

- x = Last two hexadecimal digits of sequence number that is part of postmortem dump.
- y = Boot device *n* status, where *n* is an odd-numbered MHD in the range H'1 through H'F. Valid values are:
- BD*n* = When boot device *n* is active.
- 000 = Boot device *n* is not active.
- z = Boot device *n* status, where *n* is an even-numbered MHD in the range H'0 through H'E. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated when this process (step) has successfully completed execution.

## 6. CORRECTIVE ACTION

None.

**PRM:EAXx-6400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EAda 6400 0000 0000 hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Successful initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The process manager has successfully initialized after a boot or fault.

**6. CORRECTIVE ACTION**

None.



**PRM:EAXx-6500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EAda 6500 yy00 00zz hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Boot time pcreated process not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Process manager error code (in hexadecimal) corresponding to the REPT:PMGR-ERROR output message error code (in decimal) found in the Output Messages manual, 235-600-750.

z = Number of boot time pcreated processes successfully created up to this point.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

At boot time, there are a number of processes which get created prior to the process required for output messages

to be displayed on the printer. If the creation of any of these processes fail, then this PRM is generated in order to provide minimum diagnostic support.

The process manager error code will tell why the request failed, and the number of successful creations will to some extent tell which pfile is invalid.

## **6. CORRECTIVE ACTION**

Examine the system generation (SYSGEN) results listing. Depending upon which process was not created, a reboot with a different load may be required.

**PRM:EAXx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EAda DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Disk data (previously known as all-seems-well function).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

- x = Last two hexadecimal digits of sequence number that is part of postmortem dump.
- y = Boot device *n* status, where *n* is an odd-numbered MHD in the range H'1 through H'F. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- z = Boot device *n* status, where *n* is an even-numbered MHD in the range H'0 through H'E. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated when this process (step) has successfully completed execution.

## 6. CORRECTIVE ACTION

None.



**10. EBxx-0000 — EDxx-FFFF**

**PRM:EBxx-0700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 0700 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

Audit control subsystem initialization failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

System integrity monitor (SIM) was unable to initialize the audit control subsystem due to one of the following failures:

1 = Failure to attach to the equipment configuration database (ECD).

2 = Failure to read the ECDORG record.

- 3 = Failure to read the SIM control record.
- 4 = Failure to update the SIM control record.
- 5 = Failure to access the audit records in the ECD.

## 6. CORRECTIVE ACTION

Verify and if necessary repair the SIM control and audit records in the ECD. Then enter the ALW:AUD input message with the ALL option to cause another audit control subsystem initialization attempt. Refer to the Input Messages manual, 235-600-700.

**PRM:EBxx-0800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 0800 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) was unable to attach to the plant measurements database.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

**6. CORRECTIVE ACTION**

Verify and if necessary repair the plant measurements database. Then enter the ALW:AUD input message with the ALL option to cause SIM to try again to attach to it. Refer to Input Messages manual, 235-600-700.



**PRM:EBxx-1000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 1000 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

Failure to initialize the system integrity monitor (SIM) overload control system.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

SIM was unable to initialize the "spy|" package that gives it access to information about resource utilization within the operating system kernel. This problem could be symptomatic of serious trouble in the operating system.

**6. CORRECTIVE ACTION**

None.



**PRM:EBxx-1100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 1100 0000 00zz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) terminated all operating system programs in an effort to recover from an overload condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Specify the overload fault code. Valid values are:

AF = Message buffer overflow.

AE = Critical message buffer overload.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## **5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Expect that user interface will be reinitialized. Wait a few minutes, then reissue any commands that were in progress when the incident occurred.

**PRM:EBxx-1200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 1200 0000 00zz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) terminated all user interface processes in an effort to recover from an overload condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Fault code. Valid values are:

AE = Critical message buffer overload.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Expect that user interface will be reinitialized. Wait a few minutes, then reissue any commands that were in progress when the incident occurred.

**PRM:EBxx-1300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 1300 0000 00zz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) terminated all operating system programs with long message queues in an effort to recover from an overload condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Overload fault code. Valid values are:

AE = Critical message buffer overload.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Observe whether or not user interface is reinitialized. If it is, wait a few minutes then reissue any commands that were in progress when the incident occurred.

**PRM:EBxx-1400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 1400 0000 00zz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) terminated craft spooler process (CSOP), the real-time status process (RTS), and all terminal processes in an effort to recover from an overload condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Overload fault code. Valid values are:

AE = Critical message buffer overload.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Expect that the interface terminals will be reinitialized. Wait a few minutes and then reissue any commands that were in progress when the incident occurred.

**PRM:EBxx-1500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 1500 0000 00zz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) terminated the real-time status process (RTS) and all user terminal processes in an effort to recover from an overload condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Specify the overload fault code. Valid values are:

AE = Critical message buffer overload.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**



None.

## **6. CORRECTIVE ACTION**

Expect that the interface terminals will be reinitialized. Wait a few minutes and then reissue any commands that were in progress when the incident occurred.

**PRM:EBxx-1600****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 1600 0000 00zz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) terminated all user terminal processes in an effort to recover from an overload condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Specify the overload fault code. Valid values are:

AE = Critical message buffer overload.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Expect that the interface terminals will be reinitialized. Wait a few minutes and then reissue any commands that were in progress when the incident occurred.

**PRM:EBxx-5000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 5000 0000 zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) has received a sanity message or event from the application integrity monitor (AIM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Number of seconds after the start of the bootstrap when SIM verified that the message or event had been received.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

If the SIM control record specifies a time limit for AIM to report to SIM after a bootstrap, then AIM must send SIM either an application sanity timer message or an application sanity event in order to prove that it is sane.

## **6. CORRECTIVE ACTION**

None.

**PRM:EBxx-60xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 60yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

Boot progress PRMs from the user level automatic restart process (ULARP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = The boot\_prm| field from the equipment configuration database (ECD) record of the process or command.

z = The utility identifier (ID) of the process or the ECD record ID of the run command.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A boot progress PRM is issued by ULARP at bootstrap time for any ULARP child process or run command which

has a nonzero value in the boot\_prm| field of its ECD record. They may be used by the maintenance personnel to tell which processes and commands have been executed by ULARP.

This PRM is also issued if the spooler is not running and ULARP is attempting to restart a process.

## **6. CORRECTIVE ACTION**

None.

**PRM:EBxx-6100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 6100 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) failure to pcreate the operating system initialization process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

SIM was not able to pcreate the operating system initialization process (/prc/unix) due to a misnamed or missing file.

**6. CORRECTIVE ACTION**

If user interface is working, check for the existence of the file /prc/unix. If the file exists, it should have 644



permissions. If the file does not exist, copy in a correct version.

If user interface is not working, bootstrap on backup root and follow normal procedures for restoring the primary root file system.

**PRM:EBxx-62xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 62zz 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

Operating system initialization process (/prc/unix) failure message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Failure condition. Valid values are:

11 = The initialization process could not add the equipment configuration database (ECD) segments to its address space.

12 = The initialization process could not attach to the ECD.

13 = The initialization process could not read the ECD org record.

21 = The initialization process could not read the ucb record for the maintenance TTY.

22 = The initialization process could not read the ciopt record for the emergency action

interface (EAI).

23 = The initialization process could not read the eaopt record for the EAI.

52 = The initialization process failed to execute the user level automatic restart process (ULARP).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

For all failure conditions except 52, the time zone environment variable will not be initialized. For failure condition 52, ULARP and all of the processes it monitors will not be created.

## 6. CORRECTIVE ACTION

For all failure conditions except 52, verify integrity of the ECD.

For failure condition 52, if the user interface is working, check for the existence of the file /etc/ularp. If /etc/ularp exists, it should have 744 permissions. If the file does not exist, copy in a correct version.

If the user interface is not working, bootstrap on backup root and follow normal procedures for restoring the primary root file system.

**PRM:EBxx-6300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 6300 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

Failure to execute the user level automatic restart process (ULARP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The system integrity monitor (SIM) operating system initialization sequence has failed to execute /etc/ularp. This could be caused by a problem within the initialization process or by a misnamed or missing /etc/ularp file.

**6. CORRECTIVE ACTION**

If a PRM with step B and function code 62 was also printed, use the information provided by that PRM to analyze the

problem. If this occurs following a field update of the /etc/ularp process, back out the field update.

Otherwise, if user interface is working, check for the existence of the file /etc/ularp. If /etc/ularp exists, it should have 744 permissions. If the file does not exist, copy in a correct version. Then enter the input message INIT:ULARP to execute ULARP. Refer to the Input Messages manual, 235-600-700.

If user interface is not working, bootstrap on backup root and follow normal procedures for restoring the primary root file system.

**PRM:EBxx-6400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 6400 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

user level automatic restart process (ULARP) failure to attach to the equipment configuration database (ECD).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ULARP was not able to attach to the ECD.

**6. CORRECTIVE ACTION**

If this occurs following a field update of the /etc/ularp process, back out the field update. Otherwise, if user interface is working, verify that the ECD is accessible and contains the correct ULARP records. After repairing the ECD, enter

the INIT:ULARP input message. Refer to the Input Messages manual, 235-600-700. This will cause ULARP to try again to access the ECD.

If user interface is not working, bootstrap in minimum configuration [administrative module (AM) only] and repair the full configuration ECD. If that is not successful, then bootstrap on backup root and follow normal procedures for restoring the primary root file system.

**PRM:EBxx-65xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 65yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

A run command failed to be executed by the operating system shell.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = The boot\_prm field from the equipment configuration database (ECD) record of the run command.

z = The record identifier (RID) of the run command.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Either the operating system shell did not execute the run command or a nonzero exit code was returned.



## 6. CORRECTIVE ACTION

Use the printout from the OP:ULARP-EXEC output message to get the ECD record name which matches the record ID in the PRM. Refer to the Output Messages manual, 235-600-750. Using the record name from the OP:ULARP output message, get the ECD record with recent change and verify. First make sure the record contains correct information. Then check that a file exists with the path name that is in the record and that it is executable. If the file does not exist, copy in a correct version.

If a large number of PRMs with this step number and function code are printed, the operating system shell may not be working. Check for the existence of the file /bin/sh. If it exists, it should have 755 permissions. If the file does not exist, copy in a correct version.

If the reason for the command failure is not apparent, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

Once the cause of the problem has been solved, enter the INIT:ULARP input message. Refer to the Input Messages manual, 235-600-700. This will cause user level automatic restart process (ULARP) to re-execute the run command(s) that failed.

**PRM:EBxx-66xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 66yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

Failure of the user level automatic restart process (ULARP) to execute this child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = The boot\_prm field from the equipment configuration database (ECD) record of the child process.

z = Utility identifier (ID) of the child process.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ULARP was not able to execute this child process because of a problem with the pfile of the process or because its ECD record contained invalid information which was not immediately detected by ULARP.

## 6. CORRECTIVE ACTION

Use the printout from the OP:ULARP-EXECSEQ output message to get the ECD record name which matches the utility ID in the PRM. Refer to the Output Messages manual, 235-600-750. Using the record name from the OP:ULARP output message, get the ECD record with recent change and verify. First make sure that the record contains correct information. Then check that a file exists with the path name that is in the record and that it is executable. If the file does not exist, copy in a correct version.

Once the cause of the problem has been solved, enter the INIT:ULARP input message. Refer to the Input Messages manual, 235-600-700. This will cause ULARP to re-execute the process(es) that failed.

**PRM:EBxx-67xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 67yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

A process monitored by the user level automatic restart process (ULARP) terminated due to a fatal error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = The boot\_prm field from the equipment configuration database (ECD) record of the process.

z = Utility identifier (ID) of the process.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A process monitored by ULARP terminated itself due to a fatal error.

## 6. CORRECTIVE ACTION

Use the printout from the OP:ULARP-EXEC output message to get the ECD record name which matches the utility ID in the PRM. Refer to the Output Messages manual, 235-600-750. Using the record name from the OP:ULARP output message, get the ECD record with recent change and verify. Make sure that the record contains correct information because there could be something wrong with the parameters passed to the process.

If the reason for the process failure is not apparent, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

After the problem has been resolved, enter the INIT:ULARP input message to re-execute the process. Refer to the Input Messages manual, 235-600-700.

**PRM:EBxx-68xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 68yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

Invalid equipment configuration database (ECD) record for a user level automatic restart process (ULARP) child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = The boot\_prm field from the ECD record of the child process.

z = The record identifier (ID) of the child process.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

If ULARP detects that the database record for a child process contains invalid information, it will not attempt to

execute that process.

## **6. CORRECTIVE ACTION**

Use the printout from the OP:ULARP-EXEC output message to get the ECD record name which matches the record ID in the PRM. Refer to the Output Messages manual, 235-600-750. Using the record name from the OP:ULARP output message, get the ECD record with recent change and verify. First make sure that the record contains the correct information. Then check that a file exists with the path name that is in the record and that it is executable. If the file does not exist, copy in a correct version.

After the information in the data base record has been corrected, the process may be started by entering the INIT:ULARP input message. Refer to the Input Messages manual, 235-600-700.

**PRM:EBxx-6900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 6900 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

All processes monitored by the user level automatic restart process (ULARP) failed to execute.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

All processes monitored by ULARP failed to execute.

**6. CORRECTIVE ACTION**

If possible, bootstrap in minimum configuration [administrative module (AM) only]. Use recent change and verify to examine the ULARP records in the full configuration equipment configuration database (ECD). For each ULARP



child process, check that a file exists and that it is executable. After replacing the erroneous file or repairing the ECD records, reboot in full configuration.

If that procedure is not successful, bootstrap on backup root and follow normal procedures for restoring the primary root file system.

**PRM:EBxx-7200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 7200 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

A user suspend has occurred because of a kernel-level lockout condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This PRM is issued whenever a CFT-INIT request is received by the system integrity monitor (SIM) during a kernel-level lockout condition. Its purpose is to explain why the user interface system is not recovering.

Entering CFT-INIT on the emergency action interface page will not correct this condition.

**6. CORRECTIVE ACTION**

If the system does not recover automatically, it will be necessary to request a manual phase 1.

**PRM:EBxx-7300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 7300 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

A user initialization procedure cannot be performed when the system is in disk independent operation (DIOP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This PRM is issued whenever a CFT-INIT request is received by the system integrity monitor (SIM) during DIOP. Its purpose is to explain why the user interface system is not being reinitialized.

Entering CFT-INIT on the emergency action interface page will have no effect while the system is in DIOP.

**6. CORRECTIVE ACTION**

Follow the instructions for recovering from DIOP.

**PRM:EBxx-7400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 7400 xxyy zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

A user initialization procedure timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some error was encountered but the system should continue to function.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = User initialization level.

| User/Supervisor/Kernel Process Type Restarted | Initialization Level (xx) |    |    |
|-----------------------------------------------|---------------------------|----|----|
|                                               | 01                        | 02 | 03 |
| User Processes                                | y                         | y  | y  |
| Nonessential killable UNIX System/Supv.       | n                         | y  | y  |
| Essential killable UNIX System/Supv.          | n                         | n  | y  |
| Nonkillable UNIX System/Supv.                 | n                         | n  | n  |
| Kernel                                        | n                         | n  | n  |

| I/O Driver Handler Reinitialized | Initialization Level (xx) |    |    |
|----------------------------------|---------------------------|----|----|
|                                  | 01                        | 02 | 03 |
|                                  |                           |    |    |

|                                       |   |   |   |
|---------------------------------------|---|---|---|
| Session layer handler (BXSLH)         | n | n | y |
| Handlers (CCITT)                      | n | n | y |
| User interface handler (CIH)          | n | y | y |
| Communication protocol handler (CPH)  | n | n | y |
| Direct user interface handler (DUIH)  | n | n | y |
| Magnetic tape handler (MTH)           | n | n | y |
| Network protocol handler (MPH)        | n | n | y |
| Scan and signal dist. handler (SCSDH) | n | n | y |
| Sync. datalink handler (SDLH)         | n | n | y |

y = Current user initialization phase. There are four phases in a user initialization. During a normal user initialization sequence, all four phases are seen. Valid values are:

- 01 = Sure kill phase. Processes are terminated based on the initialization level (xx).
- 02 = I/O driver phase. The I/O driver reinitializes its handlers. SIMM begins running audits.
- 03 = ULARP phase. ULARP process is restarted.
- 04 = Process creation phase. ULARP restarts or adopts its processes.

z = Current status of the user initialization. Valid values are:

- 0000 = Current phase is proceeding normally.
- 0001 = The indicated phase timed out. This may or may not be a serious problem, so wait to see if the CFT-INIT succeeds or fails.
- 0002 = SIM cannot find out the process ID of the I/O Driver. CFT-INIT is aborted.
- 0003 = CFT-INIT failed. Look for other PRMs to locate the exact cause of the problem. Trying the next higher level of CFT-INIT may solve the problem.
- 0004 = CFT-INIT completed successfully.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated while a CFT-INIT is in progress. It is used to convey status information about the CFT-INIT. Since a port switch of the ROP and MCRT may occur during a CFT-INIT, some erroneous PRMs may be output. Therefore, decode all failure PRMs completely before escalating the recovery level and ignore any single success PRMs that seem out of sequence.

## 6. CORRECTIVE ACTION

This section describes the corrective actions for the various permutations of this PRM.

| If "x" = | If "y" = | If "z" = | Action:                                                                                                                                                          |
|----------|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |          | 0000     | CFT-INIT status PRM. No corrective action is required.                                                                                                           |
|          | 01       | 0001     | The scheduler timed out during the Sure Kill Phase of the CFT-INIT. The scheduler will automatically clean up after 9 minutes. No corrective action is required. |
|          | 02       | 0001     | The I/O driver timed out during the I/O Driver Phase of the CFT-INIT. No corrective action is required.                                                          |

|    |    |      |                                                                                                                                                                                                                                                                                                                   |
|----|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | 03 | 0001 | SIM timed out waiting for the process manager to create ULARP during the ULARP Phase of the CFT-INIT. The CFT-INIT is expected to fail. As a corrective action, try a level 2 CFT-INIT.                                                                                                                           |
| 02 | 03 | 0001 | SIM timed out waiting for the process manager to create ULARP during the ULARP Phase of the CFT-INIT. The CFT-INIT is expected to fail. As a corrective action, try a level 3 CFT-INIT.                                                                                                                           |
| 03 | 03 | 0001 | SIM timed out waiting for the process manager to create ULARP during the ULARP Phase of the CFT-INIT. The CFT-INIT is expected to fail. If after 15 minutes the terminals are unresponsive, reboot the machine (52).                                                                                              |
|    | 04 | 0001 | SIM timed out waiting for the ULARP to create its children during the Process Creation Phase of the CFT-INIT. The CFT-INIT is expected to fail. If after 15 minutes the terminals are unresponsive, reboot the machine (52).                                                                                      |
|    | 01 | 0002 | SIM cannot determine the process ID of the I/O driver. This is a serious problem. If after 15 minutes the terminals are unresponsive, reboot the machine (52).                                                                                                                                                    |
|    | 02 | 0002 | SIM cannot determine the process ID of the I/O driver. This is a serious problem. SIM will automatically initiate a phase 1 (51) in an attempt to force the I/O driver into restore. As a corrective action, try a level 3 CFT-INIT. If after 15 minutes the terminals are unresponsive, reboot the machine (52). |
|    |    | 0003 | The CFT-INIT failed. Take corrective action based on the other CFT-INIT PRM.<br><br>This PRM is also seen if a phase 1 (51) occurs while a CFT-INIT is in progress. If this is the case, retry the same level CFT-INIT.                                                                                           |
|    |    | 0004 | ULARP was able to successfully create its child processes. CFT-INIT completed successfully. Normally, no corrective action is required; however, if terminals are unresponsive, try a level 3 CFT-INIT. If after 15 minutes the terminals are still unresponsive, reboot the machine (52).                        |



**PRM:EBxx-7500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda 7500 0000 000z hh hh hh

**2. PRM SOURCE**

System integrity monitor (SIM).

**3. FUNCTION**

An operator initialization cannot be performed because either an operator initialization or a field update is already in progress.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Indicates which process is already in progress. Valid values are:

0 = An operator initialization is in progress. SIM has terminated all operator interface programs because a CFT-INIT was requested by the emergency action interface (EAI). Operator interface programs may also be terminated during overload recovery actions. Different PRM function codes (11, 12, 13, 14, 15, and 16) are used in those cases.

1 = A field update was in progress when a level 2 or 3 operator initialization request was received by SIM. Entering a level 2 or 3 CFT-INIT on the EAI page will have no effect while the system is performing a field update.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

None.

## 6. CORRECTIVE ACTION

| If "z" = | Action:                                                                                                                                                                                                                                                                                                               |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0        | The operator interface should be reinitialized. Wait a few minutes and then reissue any commands that were in progress when the CFT-INIT was entered.<br><br><b>NOTE:</b> If the operator reinitialization procedure does not complete within 15 minutes, SIM will time it out and issue a PRM with function code 74. |
| 1        | Wait until the field update has completed.                                                                                                                                                                                                                                                                            |

**PRM:EBxx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EBda DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Operating system level automatic restart process.

**3. FUNCTION**

Disk data (previously known as all-seems-well function).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

- x = Last two hexadecimal digits of sequence number that is part of the postmortem dump.
- y = Boot device *n* status, where *n* is an odd-numbered MHD in the range H'1 through H'F. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- z = Boot device *n* status, where *n* is an even-numbered MHD in the range H'0 through H'E. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 for definition of the digits.

## 5. EXPLANATION

None.

## 6. CORRECTIVE ACTION

None.

**PRM:ECxx-0F00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p ECda 0F00 0000 0000 hh hh hh

**2. PRM SOURCE**

Control unit (CU) hardware audit.

**3. FUNCTION**

This PRM indicates that the off-line processor maintenance reset function (MRF) occurred. When it is received by the Master Control Center (MCC) peripheral controller (PC) firmware, the firmware extinguishes the flashing recovery indication on the MCC.

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

**6. CORRECTIVE ACTION**

None.

**PRM:ECxx-0FDD****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p ECda 0FDD 1234 5678 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH)

**3. FUNCTION**

This PRM is used during OFLBOOT to extinguish the control unit (CU) recovery indicator on the emergency action interface (EAI) page.

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This is an informational PRM.

**6. CORRECTIVE ACTION**

None.





**PRM:ECxx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p ECda DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

Disk data (previously known as all-seems-well function).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

A = Non-manually.

0 = Manually.

- x = Last two hexadecimal digits of sequence number that is part of postmortem dump.
- y = Boot device *n* status, where *n* is an odd-numbered MHD in the range H'1 through H'F. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- z = Boot device *n* status, where *n* is an even-numbered MHD in the range H'0 through H'E. Valid values are:
- BD*n* = Boot device *n* is active.
- 000 = Boot device *n* is not active.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

None.

## 6. CORRECTIVE ACTION

None.

**11. EEEE-0000 — EExx-7EFF**

**PRM:EEEE-EEEE****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EEEE EEEE EEEE EEEE hh hh hh

**2. PRM SOURCE**

3B20D central control (CC) diagnostic phase 93 or 3B21D CC diagnostic phase 65.

**3. FUNCTION**

Diagnostic test.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

h = Any hexadecimal number.

**NOTE:** Two different versions of this PRM exist. This one is generated by the operating system and the other one is generated by an application process. Distinction can be made by comparing the *d* and *a* variables (PRM\_p EEda EEEE EEEE) of the two versions. The application process version of *d* and *a* contains numbers and the operating system version contains the letters *EE* in the *d* and *a* variables. Please read the other PRM description, for PRM:EEEx-EEEE, if this one doesn't seem to apply in your case.

**5. EXPLANATION**

The off-line processor produces PRMs during CC diagnostics. This PRM is one in a sequence of PRMs output during the CC diagnostic. More detailed information about these PRMs is given in the Corrective Maintenance Procedures, 235-105-220.

**6. CORRECTIVE ACTION**

None. This is not a problem condition. Disregard this PRM or any of the sequence described in the **EXPLANATION**.

**NOTE:** Also disregard the one or two PRMs preceding this pattern if they have a D or F in position 15.

**PRM:EExx-00CC****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 00CC 0BCC BCCB hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Operating system input/output driver kernel process (IODRV) going into recovery.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

00CC = Application function (IODRV going into recovery).

d = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The IODRV is going into recovery. This will effect all craft input/output and operating system data links.

## **6. CORRECTIVE ACTION**

None. These PRMs are informational only.

**PRM:EExx-01xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 01st uwww xyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Switch (operating system application process) initialization progress.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

01 = Application function (switch PRM).

s = Administrative module (AM) software (SW) initialization level. Valid values are:

2 = S2 [D1 equals a single process purge (SPP) on all operating system application processes].

4 = S4 (C1 and/or RINGMON FPI).

- 5 = S5 [application full process initialization (FPI)].
- 6 = S6 (AM SW initialization without clearing phase protected data).
- 7 = S7 (AM SW initialization with phase protected data cleared).

t = AM communication module (CM) hardware (HW) initialization level. Valid values are:

- 0 = H0 (no hardware level).
- 2 = H2 [AM-CM resynchronization, 5E10 and later].
- 3 = H3 (TMS talking paths & network clock preserved).
- 4 = H4 (TMS talking paths opened & network clock initialization).

u = Common network interfaece (CNI) ring [CNI/interprocessor message switch (IMS)] initialization. Valid values are:

- 0 = No CNI ring in office.
- 1 = C1 (shut down & restart all channels).
- 2 = C2 (initialization without disturbing CNI ODD).
- 3 = C3 (pump CNI ODD to AM and ring).
- 4 = C4 (full pump on the entire CNI ring).

w = Initialization time in hex seconds. Valid vaues are:

- 03c = 60 seconds equals 1 minute.
- 078 = 120 seconds equals 2 minutes.
- 0b4 = 180 seconds equals 3 minutes.
- 0f0 = 240 seconds equals 4 minutes.
- 12c = 300 seconds equals 5 minutes.
- 168 = 360 seconds equals 6 minutes.
- 1a4 = 420 seconds equals 7 minutes.
- 1e0 = 480 seconds equals 8 minutes.

x = INulcnt equals the count of the number of times selective initialization operating system user level automatic restart process (SIULARP) has been created. INulcnt is incremented by SIULARP immediately following its creation. Valid values are:

- 0 = User level automatic restart process (ULARP) has created no child processes yet.



- 1 = ULARP is creating HM child processes.
- 2 = ULARP is creating maintenance child processes.
- 3 = ULARP is creating RC/DB child processes.
- 4 = ULARP is creating AS/TM child processes.
- 5 = ULARP is creating deferred child processes.
- 6 = ULARP is finished creating child processes.

y = INulshdw equals AIM count of acknowledged SIULARP creations. INulsdow is incremented by AIM immediately following reception of an event from SIULARP. This is effectively an AIM shadow of INulcnt. Valid values are:

- 0 = No operating system ULARP processes have been created.
- 1 = Operating system ULARP process has been created.
- 2 = HMsip and all receive-only printer (ROP) and display application display administration process (DAP) processes have been created.
- 3 = All operating system application processes have been created & are fully operational.
- 4 = All DB/RC ULARP processes have been created.
- 5 = All AS/TM ULARP processes have been created.
- 6 = All deferred maintenance ULARP processes have been created (initialization complete).

z = Initialization progress points. Valid values are:

- 00 = Normal operation (no initialization or safe interval).
- 01 = AIM created.
- 02 = Switch critical creations requested (phase 1 creations in progress).
- 03 = DB/DD initialization completed.
- 04 = CCS critical creations requested (phase 2 creations in progress).
- 06 = SMKP SOFTINIT completed.
- 07 = MSKP SOFTINIT completed.
- 08 = OKP SOFTINIT completed.
- 09 = CNI initialization kernel process (CNIINIT) SOFTINIT completed.
- 10 = Switch call processing on.

|    |                                                                                                                                   |
|----|-----------------------------------------------------------------------------------------------------------------------------------|
| 20 | = CCS call processing on (phase 3 creations in progress).                                                                         |
| 40 | = Call support creations requested (phase 4 creations in progress).                                                               |
| 60 | = ULARP HM processes created.                                                                                                     |
| 80 | = ULARP maintenance (MTCE) processes created.                                                                                     |
| A0 | = Switch/operating system non-critical creations requested (phase 5 creations in progress).                                       |
| C4 | = Common channel signaling (CCS) non-critical creations requested (all essential processes except CNIINIT are fully operational). |
| E4 | = ULARP RC/DB processes created.                                                                                                  |
| F4 | = ULARP AS/TM processes created.                                                                                                  |
| FF | = ULARP deferred processes created (begin safe interval).                                                                         |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

Those portions of the AM initialization that take many seconds to complete, and which do not have specific progress PRMs, are covered by the PRM. AIM provides integrity timing and prints this periodic all-seems-well PRMs. This PRM primarily covers the CNI ring pump and later portions of the initialization when operating system ULARP is creating processes. This PRM indicates to the operator exactly what is happening in the initialization at this point.

## 6. CORRECTIVE ACTION

Although this is an informational PRM, significant periods of time (that is, several minutes) with no forward progress indications should be dealt with as follows:

- Apply Master Control Center (MCC) controls.
- Reconfigure processors.
- Request higher manual initializations.

**PRM:EExx-0211****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0211 0t0u wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) or re-synchronization control (RCON).

**3. FUNCTION**

Beginning of a new communication module (CM) hardware initialization step in SMKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0211 = Application function (beginning of a new CM hardware initialization).

t = CM hardware initialization level. Valid values are:

0 = No CM HW initialization requested.

2 = H2 initialization (AM/CM re-synchronization).

3 = H3 initialization without inhibit hardware checks.

4 = H4 initialization without inhibit hardware checks.

B = H3 initialization with inhibit hardware checks.

C = H4 initialization with inhibit hardware checks.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) hardware availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 hardware availability. Refer to variable u for CMP or QGP availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 hardware availability. Same options as variable w.

y = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 hardware availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 hardware availability. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON or RCON produces this PRM using the application integrity monitor (AIM) when the CM hardware initialization phase has been entered successfully.

## 6. CORRECTIVE ACTION

None.



**PRM:EExx-0213****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0213 0y00 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Switching foundation peripheral controllers (FPCs) and retrying office network and timing complex (ONTC) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0213 = Application function (switching FPCs and retrying ONTC initialization).

y = Communication module (CM) hardware initialization level. Valid values are:

0 = Null CM hardware (HW) initialization.

2 = H2 initialization (AM/CM re-synchronization).

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | = H3 initialization without inhibit hardware checks.                                                                                                  |
| 4 | = H4 initialization without inhibit hardware checks.                                                                                                  |
| B | = H3 initialization with inhibit hardware checks.                                                                                                     |
| C | = H4 initialization with inhibit hardware checks.                                                                                                     |
| z | = Active FPC to be removed in switch. Valid values are:                                                                                               |
| A | = FPC side 0.                                                                                                                                         |
| B | = FPC side 1.                                                                                                                                         |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

ICON is an Operating System for Distributed Switching (OSDS) system process within SMKP. ICON produces this PRM, using the application integrity monitor (AIM), as an "FPC switch escalation" phase is entered (that is, the active FPC will be removed, the mate FPC elevated to active, and only the ONTC initialization portion of the CM initialization reattempted).

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-0214****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0214 0t0u wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

ICON is retrying the communication module (CM) hardware initialization step using a different hardware configuration.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0214 = Application function [retry CM hardware (HW) initialization with new HW configuration].

t = CM hardware initialization level. Valid values are:

0 = Null CM HW initialization.

2 = H2 initialization (AM/CM re-synchronization).



3 = H3 initialization without inhibit hardware checks.

4 = H4 initialization without inhibit hardware checks.

B = H3 initialization with inhibit hardware checks.

C = H4 initialization with inhibit hardware checks.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) hardware availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 hardware availability. Refer to variable u for CMP or QGP availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 hardware availability. Same options as variable w.

y = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 hardware availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 3 | 3     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 hardware availability. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON produces this PRM using the application integrity monitor (AIM) when a CM hardware initialization retry is about to begin.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-0215****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0215 0000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Beginning the communication link initialization step in SMKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0215 = Application function (beginning communication link initialization).

z = Preferred link configuration used. Valid values are:

0 = No communication link initialization required.

A = Preferred link configuration 0.

F = Preferred link configuration 1.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON is an operating system for distributed switching (OSDS) process within SMKP. ICON produces this PRM using the application integrity monitor (AIM) when the communication link initialization step has been entered successfully (either in a new initialization sequence or in an escalation strategy).

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-0216****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0216 0000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Retrying the communication link initialization step in SMKP with a new link configuration.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0216 = Application function (retrying communication link initialization).

z = Preferred link configuration used. Valid values are:

0 = None [null hardware (HW) initialization level].

A = Preferred link configuration 0.

F = Preferred link configuration 1.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON is an operating system for distributed switching (OSDS) system process within SMKP. ICON produces this PRM, using the application integrity monitor (AIM), when the communication link initialization phase is about to be retried with a new preferred link configuration.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-0217****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0217 0000 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Report of the beginning of the "enable fault recovery" step of SMKP initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0217 = Application function (beginning "enable fault recovery" step in SMKP).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ICON is an operating system for distributed switching (OSDS) system process within SMKP. ICON produces this PRM using the application integrity monitor (AIM) when the "enable fault recovery" step of SMKP initialization begins. During this step, the ICON and initialization fault recovery strategies (IFRS) processes are replaced by normal communication module fault recovery processes.

## **6. CORRECTIVE ACTION**

None. These PRMs are informational only.



**PRM:EExx-0218****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0218 000u wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Report of the beginning of special administrative module (AM) minimum mode recovery actions.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0218 = Application function (begin special AM min-mode recovery).

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) hardware availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |

|   |   |                                  |
|---|---|----------------------------------|
|   | 0 | No QGPs on side 0 are available. |
| 1 | 1 | CMP side 1 is available.         |
|   | 0 | CMP side 1 not available.        |
| 0 | 1 | CMP side 0 is available.         |
|   | 0 | CMP side 0 not available.        |

$w$  = Message switch (MSGS) side 0 hardware availability. Refer to variable  $u$  for CMP or QGP availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

$x$  = MSGS side 1 hardware availability. Same options as variable  $w$ .

$y$  = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 hardware availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

$z$  = ONTC side 1 hardware availability. Same options as variable  $y$ .

$h$  = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON produces this PRM using the application integrity monitor (AIM) when entering special code that accommodates switch application minimum mode when communication module duplex failure conditions have been detected.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-0222****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0222 rstu wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) or re-synchronization control (RCON).

**3. FUNCTION**

Successfully completing the communication module (CM) hardware initialization step in SMKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0222 = Application function (successful completion of CM hardware initialization step).

r = The active/active-forced office network and timing complex (ONTC). Valid values are:

6 = ONTC - side 0.

7 = ONTC - side 1.

s = CM hardware initialization level. Valid values are:

- 0 = Null CM HW initialization.
- 2 = H2 initialization (AM/CM re-synchronization).
- 3 = H3 initialization without inhibit hardware checks.
- 4 = H4 initialization without inhibit hardware checks.
- B = H3 initialization with inhibit hardware checks.
- C = H4 initialization with inhibit hardware checks.

t = The active/active-forced foundation peripheral controller (FPC). Valid values are:

- A = FPC - side 0.
- B = FPC - side 1.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 results. Same options as variable w.

y = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 results. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

ICON or RCON produces this PRM using the application integrity monitor (AIM) when the CM hardware initialization phase has been successfully completed.

## **6. CORRECTIVE ACTION**

None.

**PRM:EExx-0225****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0225 0w0x yy0z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Successfully completing communication link initialization step in SMKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0225 = Application function (successful completion of communication link init step).

w = Communication module (CM) hardware initialization level. Valid values are:

0 = Null CM HW initialization.

2 = H2 initialization (AM/CM re-synchronization).

|   |   |                                                                                                                                                       |
|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | 3 | = H3 initialization without inhibit hardware checks.                                                                                                  |
|   | 4 | = H4 initialization without inhibit hardware checks.                                                                                                  |
|   | B | = H3 initialization with inhibit hardware checks.                                                                                                     |
|   | C | = H4 initialization with inhibit hardware checks.                                                                                                     |
| x |   | = Communication module processor (CMP) hardware (HW) availability. Valid values are:                                                                  |
|   | 0 | = No CMPs available or no HW initialization requested.                                                                                                |
|   | 1 | = CMP0 available.                                                                                                                                     |
|   | 2 | = CMP1 available.                                                                                                                                     |
|   | 3 | = Both CMP0 and CMP1 available.                                                                                                                       |
| y |   | = Number of non-isolated SMs (in hexadecimal notation).                                                                                               |
| z |   | = Preferred link configuration used. Valid values are:                                                                                                |
|   | 0 | = None (null HW initialization level).                                                                                                                |
|   | A | = Preferred link configuration 0.                                                                                                                     |
|   | F | = Preferred link configuration 1.                                                                                                                     |
| h |   | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

ICON is an OSDS system process within SMKP. ICON produces this PRM using the application integrity monitor (AIM) when the communication link initialization step has been successfully completed.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-0227****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0227 0000 zzzz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) configuration administration (CAD).

**3. FUNCTION**

Successful completion of the "enable fault recovery" step of SMKP initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0227 = Application function [SMKP CAD replacement of initialization control (ICON)].

z = The last "event number" used in the communication module (CM) hardware and communication link initialization (in hexadecimal notation). Only receive-only printer (ROP) messages with an event number less than this value document activity that occurred during the initialization sequence.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## **5. EXPLANATION**

CAD produces this PRM, using the application integrity monitor (AIM), following completion of the initialization fault recovery strategies (IFRS) to switch maintenance analysis and recovery strategies (SMARS) and the ICON to CAD process replacements. ICON and IFRS are SMKP operating system for distributed switching (OSDS) system processes that run during the administrative module (AM) initialization. CAD and SMARS are SMKP OSDS system processes that do corresponding work and run only after the AM initialization.

## **6. CORRECTIVE ACTION**

None. These PRMs are informational only.

**PRM:EExx-0240****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 0240 xyz0 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Successful initialization of the active (ACT) or active-forced (ACT-FRC) foundation peripheral controller (FPC) or either office network and timing complex (ONTC) or the communication module processor (CMP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0240 = Application function (ICON CMP/FPC/ONTC initialization complete).

x = Unit successfully initialized. Valid values are:

0 = CMP - side 0.

1 = CMP - side 1.

6 = ONTC - side 0.

7 = ONTC - side 1.

A = FPC - side 0.

B = FPC - side 1.

y = Communication module (CM) hardware initialization level. Valid values are:

0 = Null CM hardware (HW) initialization.

2 = H2 initialization (AM/CM re-synchronization).

3 = H3 initialization without inhibit hardware checks.

4 = H4 initialization without inhibit hardware checks.

B = H3 initialization with inhibit hardware checks.

C = H4 initialization with inhibit hardware checks.

z = Resultant state. Valid values are:

1 = Active (CMP or FPC).

2 = Active-forced (ONTC only).

3 = Active-major (ONTC only).

4 = Active-minor (ONTC only).

5 = Standby (CMP only).

6 = Degraded-forced (ONTC only).

7 = Degraded-major (ONTC only).

8 = Degraded minor (ONTC only).

9 = Active-forced with fabric update in progress (ONTC only).

A = Active-major with fabric update in progress (ONTC only).

B = Active-minor with fabric update in progress (ONTC only).

C = Degraded-forced with fabric update in progress (ONTC only).

D = Degraded-major with fabric update in progress (ONTC only).

E = Degraded-minor with fabric update in progress (ONTC only).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ICON produces these PRMs, using the application integrity monitor (AIM), as a progress mark during the CM hardware initialization sequence; they will be produced only when the active FPC, active CMP, standby deactivated CMP, or either ONTC complex has been initialized successfully.

**6. CORRECTIVE ACTION**

None. These PRMs are informational only.

**PRM:EExx-0280****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 0280 z000 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON), re-synchronization control (RCON) or initialization fault recovery strategies (IFRS).

**3. FUNCTION**

Order to elevate a communication module processor (CMP) or a foundation peripheral controller (FPC) or a pump peripheral controller (PPC) or a quad link packet switch (QLPS) to the active (ACT) state.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Unit to be elevated. Valid values are:

0 = CMP - side 0.

1 = CMP - side 1.

|   |                  |
|---|------------------|
| 4 | = QLPS - side 0. |
| 5 | = QLPS - side 1. |
| A | = FPC - side 0.  |
| B | = FPC - side 1.  |
| E | = PPC - side 0.  |
| F | = PPC - side 1.  |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON, RCON or IFRS produce this PRM, using the application integrity monitor (AIM). They will be produced only when the active CMP, FPC, PPC, or QLPS is determined to be faulty or the mate unit was not available or when an active FPC is removed in an "FPC switch escalation". The appropriate action is to escalate a standby (STBY) mate to the ACT state.

## 6. CORRECTIVE ACTION

Diagnose the potentially faulty unit.

**PRM:EExx-0290****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 0290 00xy 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance (SM) database initialization.

**3. FUNCTION**

Report of a mixed vintage (CM1/CM2) office configuration, with appropriate hardware forces applied.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Communication module (CM) vintage of side 0. Valid values are:

1 = CM1 vintage.

2 = CM2 vintage.

y = CM vintage of side 1. Valid values are:

1 = CM1 vintage.

2 = CM2 vintage.

z = Message switch (MSGs) and office network and timing complex (ONTC) side that is ACT-FRC.  
Valid values are:

0 = Side 0.

1 = Side 1.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The switch maintenance database initialization function SMinpopseq() will produce this PRM, using the application integrity monitor (AIM), to notify office personnel that a "mixed" CM vintage office configuration exists (during conversion), and that hardware forces are properly applied.

## 6. CORRECTIVE ACTION

None.



**PRM:EExx-02E5****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 02E5 0000 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance (SM) database initialization (S5).

**3. FUNCTION**

Report of a successful "S5" SM database initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The SM database initialization function SMinit\_data() will produce this PRM using the application integrity monitor (AIM) to notify the operators that the SM database has been successfully initialized at software level "S5".

## **6. CORRECTIVE ACTION**

None. These PRMs are informational only.

**PRM:EExx-02E6****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 02E6 rstu wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance (SM) database initialization (S6).

**3. FUNCTION**

Report of a successful SM database initialization (S6 software level).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

r = Communication module (CM) hardware initialization level. Valid values are:

2 = H2 initialization.

3 = H3 initialization.

4 = H4 initialization.

s = The number of initialization attempts that were preempted immediately before the one currently in progress. Note that this value is forced to a nonzero value if software detects that only simplex CM configurations should be initialized. This counter counts from zero to fifteen.

t = Initialization type. Valid values are:

1 = Nonpreempting initialization.

2 = Preempting initialization.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) hardware availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 hardware availability. Refer to variable u for CMP or QGP availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 hardware availability. Same options as variable w.

y = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 hardware availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 hardware availability. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The SM database initialization function SMinit\_data() will produce this PRM, using the application integrity monitor (AIM) following successful completion of its S6 software initialization and the creation of the internal reference table, specifying a maximal set of hardware that may participate in the initialization.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-02E7****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 02E7 rstu wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance (SM) database initialization (S7).

**3. FUNCTION**

Report of a successful SM database initialization (S7 software level).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

r = Communication module (CM) hardware initialization level. Valid values are:

2 = H2 initialization.

3 = H3 initialization

4 = H4 initialization.

s = Number of initialization attempts that were preempted immediately before the one currently in progress. Note that this value is forced to a nonzero value if software detects that only simplex CM configurations should be initialized. This counter counts from zero to fifteen.

t = Initialization type. Valid values are:

1 = Nonpreempting initialization.

2 = Preempting initialization.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) hardware availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 hardware availability. Refer to variable u for CMP or QGP availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 hardware availability. Same options as variable w.

y = ONTC (office network and timing complex) and QLPS (quad link packet switch) side 0 hardware availability. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 hardware availability. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The SM database initialization function SMinit\_data() will produce this PRM using the application integrity monitor (AIM) following successful completion of its S7 software initialization and the creation of the internal reference table, specifying a maximal set of hardware that may participate in the initialization.

## 6. CORRECTIVE ACTION

None.



**PRM:EExx-0300****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 0300 07F9 zzzz hh hh hh

**2. PRM SOURCE**

Retrofit.

**3. FUNCTION**

APPLHOOK creation. Refer to the OP:GEN-READLOG output message in the Output Messages manual, 235-600-750, for more information about the APPLHOOK process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0300 = Application function (APPLHOOK creation).

07F9 = APPLHOOK utility ID.

z = Return code from the process manager (PMGR). Zero implies success. Otherwise a failure occurred. Refer to the error code appendixes in the Output Messages manual, 235-600-750, or convert this code from hexadecimal to decimal and consult output message, REPT:PMGR-ERROR,

in the Output Messages manual for an explanation.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

On 42!S!54 or 42!R!54 high-level administrative module (AM) initializations, APPLHOOK is created as a part of the retrofit procedures.

## **6. CORRECTIVE ACTION**

None.

**PRM:EExx-0400****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 0400 07F9 0000 hh hh hh

**2. PRM SOURCE**

Retrofit.

**3. FUNCTION**

APPLHOOK ran successfully and then terminated. Refer to the OP:GEN-READLOG output message in the Output Messages manual, 235-600-750, for more information about the APPLHOOK process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0400 = Application function (APPLHOOK successfully ran).

07F9 = APPLHOOK utility ID.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

On 42!S!54 or 42!R!54 high-level administrative module (AM) initializations, APPLHOOK dies as a part of the retrofit procedures.

**6. CORRECTIVE ACTION**

None.

**PRM:EExx-0600****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 0600 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

The administrative module (AM) in core memory office dependent data (ODD) has been successfully reloaded into the protected application segment (PAS) in AM main memory.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0600 = Application function [successful process for loading ODD into PAS (PLOP) reload of AM in core memory ODD].

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The partition mounting kernel process (PMKP) mounts the AM encore ODD disk partition /dev/no5aodd1; the disk ODD is a raw partition and does not require mounting. The PLOP then loads the encore ODD from the no5odd/cpdata file into the AM CU PAS. The process for loading ODD onto disk (PLOD) then loads the disk ODD from one disk partition to another working copy disk partition. At this point, the recent change roll forward (RCRF) process is creating to begin applying the recent change (RC) log files to the encore and disk AM ODDs.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-0700****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 0700 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

The AM has successfully completed recent change roll forward (RCRF) of the 5ESS<sup>®</sup> switch application office-dependent data (ODD).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0700 = Application function (successful RCRF).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The partition mounting kernel process (PMKP) mounts the administrative module (AM) encore ODD disk partition /dev/no5aodd1; the disk ODD is a raw partition and does not require mounting. The process for loading ODD into protected application segment (PAS) process for loading ODD into PAS (PLOP) then loads the encore ODD from the no5odd/cpdata file into the AM CU PAS. The process for loading ODD onto disk PLOD then loads the disk ODD from one disk partition to another working copy disk partition. At this point, the RCRF process is creating to begin applying the RC log files to the encore and disk AM ODDs.

## **6. CORRECTIVE ACTION**

None.



**PRM:EExx-0800****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 0800 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

The administrative module (AM) disk office dependent data (ODD) has been successfully copied between disk partitions.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

0800 = Application function [successful process for loading ODD onto disk (PLOAD) disk ODD copy].

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The partition mounting kernel process (PMKP) mounts the AM encore ODD disk partition /dev/no5aodd1; the disk ODD is a raw partition and does not require mounting. The process for loading ODD into PAS (PLOP) then loads the encore ODD from the no5odd/cpdata file into the AM CU protected application segment (PAS). The PLOD then loads the disk ODD from one disk partition to another working copy disk partition. At this point, the recent change roll forward (RCRF) process is creating to begin applying the RC log files to the encore and disk AM ODDs.

## **6. CORRECTIVE ACTION**

None.

**PRM:EExx-12xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 12qr stuw xyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Synchronization progress between the AIM and the system integrity user level automatic restart program (SIULARP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

12 = Application function (switch AIM SIULARP synchronization).

q = Administrative module (AM) software (SW) initialization level. Valid values are:

2 = S2 [D1 equals a single process purge (SPP) on all operating system application processes].

4 = S4 [C1 and/or common network interface (CNI) ring monitor kernel process (RINGMON) full process initialization (FPI)].

5 = S5 (application FPI).

6 = S6 (AM SW initialization without clearing phase protected data).

7 = S7 (AM SW initialization with phase protected data cleared).

r = AM communication module (CM) hardware (HW) initialization level. Valid values are:

0 = H0 (no CM HW initialization).

2 = H2 (AM-CM resynchronization, no CM pump or initialization).

3 = H3 [time multiplex switch (TMS) talking paths and network clock preserved].

4 = H4 (TMS talking paths opened and network clock initialization).

s = CNI ring [CNI/interprocessor message switch (IMS)] initialization. Valid values are:

0 = No CNI ring in office.

1 = C1 (shut down and restart all channels).

2 = C2 (initialization without disturbing CNI ODD).

3 = C3 (pump CNI ODD to AM and ring).

4 = C4 (full pump on the entire CNI ring).

7 = No CNI initialization level specified (yet).

t = INulcnt (count of the number of times SIULARP has been created). INulcnt is incremented by SIULARP immediately following its creation. Valid values are:

0 = User level automatic restart program (ULARP) has created no child processes yet.

1 = ULARP is creating HM child processes.

2 = ULARP is creating maintenance child processes.

3 = ULARP is creating RC/DB child processes.

4 = ULARP is creating AS/TM child processes.

5 = ULARP is creating deferred child processes.

6 = ULARP is finished creating child processes.

u = INulshdw (AIM count of acknowledged SIULARP creations). INulshdw is incremented by AIM immediately following reception of an event from SIULARP. This is effectively an AIM shadow of

INulcnt and has a typical value of one less than INulcnt. Valid values are:

- 0 = No operating system ULARP processes have been created.
- 1 = Operating system ULARP process has been created.
- 2 = HMsip and all receive-only printer (ROP) and AM processes have been created.
- 3 = All operating system application processes have been created and are fully operational.
- 4 = All DB/RC ULARP processes have been created.
- 5 = All AS/TM ULARP processes have been created.
- 6 = All deferred maintenance ULARP processes have been created (initialization complete).

w

= INphase (switch AIM creation phase). Valid values are:

- 0 = No AIM child processes have been created.
- 1 = Switch critical process (CMKP, SMKP, MSKP, OKP) creations have begun.
- 2 = CCS critical (CNIINIT, IMSDRV, SLMK, TDCP, NPP, RINGMON) creations have begun.
- 3 = Input/output driver kernel process (IODRV) creation have begun.
- 4 = Call processing support process (RCKP, AMDW1, AMDW2, APDL) creations have begun.
- 5 = Switch non-critical process (PUCR, KLmon, PLDMON, SUOVPRC, FDA, SCSD, DMAN, SMPSPM) creations have begun.

x

= Success/failure indication. Valid values are:

- 0 = Success.
- F = Failure (refer to variable y for specific error code).

y

= Error code. Valid values are:

- 0 = No error (this is a success PRM).
- 1 = Operating system kportid() primitive failed to find SIULARP port. This probably means SILRARP timed out (3 minutes) without getting a release event from AIM. This probably means that some previous initialization step has failed.
- 2 = Operating system sendevent() primitive failed to SIULARP.
- 3 = A request was denied to perform a redundant process creation phase.
- 4 = Lack of initialization activity for 2-6 minutes, advancing ULARP process creation.

5 = Lack of initialization activity for 2-6 minutes, advancing switch process creation.

z = Initialization progress points. Valid values are:

00 = Normal operation (no initialization or safe interval).

01 = AIM created.

02 = Switch critical creations requested (phase 1 creations in progress).

03 = DB/DD initialization completed.

04 = CCS critical creations requested (phase 2 creations in progress).

06 = SMKP SOFTINIT completed.

07 = MSKP SOFTINIT completed.

08 = OKP SOFTINIT completed.

09 = CNIINIT SOFTINIT completed.

10 = Switch call processing on.

20 = CCS call processing on (phase 3 creations in progress).

40 = Call support creations requested (phase 4 creations in progress).

60 = ULARP HM processes created.

80 = ULARP MTCE processes created.

A0 = Switch/operating system non-critical creations requested (phase 5 creations in progress).

C4 = CCS non-critical creations requested (all essential processes except CNIINIT are fully operational).

E4 = ULARP RC/DB processes created.

F4 = ULARP AS/TM processes created.

FF = ULARP deferred processes created (begin safe interval).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

SIULARP is a switch application ULARP process that is designed to allow switch to control the rate at which ULARP processes are created during high-level AM initializations. ULARP processes are created in the following stages: HM processes, maintenance processes, RC/DB processes, AS/TM processes, deferred maintenance processes. When the various stages of this control are exercised, this PRM is printed.

## **6. CORRECTIVE ACTION**

None. This is an informational PRM.

**PRM:EExx-13xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 13yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

AIM received a kernel fault from the operating system.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Fault code reason. Refer to the error code appendixes in the Output Messages manual, 235-600-750.

z = Saved state data for ASSERT stack frame dump (if non-zero). Valid values are:

0000 0000 = Faulted process not running.



h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

This PRM acknowledges operating system kernel fault messages were received by the application integrity monitor.

## **6. CORRECTIVE ACTION**

None. This is an informational PRM.

**PRM:EExx-40xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 40 tu wxyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**5ESS<sup>TM</sup> switch application AIM administrative module (AM) high-level initialization in progress.**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

40 = Application function (AIM high-level initialization progress indicator).

t = AM software (SW) initialization level. Valid values are:

6 = S6 (AM SW initialization without clearing phase protected data).

7 = S7 (AM SW initialization with phase protected data cleared).

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| u | = AM communication module (CM) hardware (HW) initialization level. Valid values are:                                                                  |
| 0 | = H0 (no CM HW initialization).                                                                                                                       |
| 2 | = H2 (AM-CM resynchronization, no CM pump or initialization).                                                                                         |
| 3 | = H3 [time multiplex switch (TMS) talking paths and network clock preserved].                                                                         |
| 4 | = H4 (TMS talking paths opened and network clock initialization).                                                                                     |
| w | = Common network interface (CNI) ring (CNI/interprocessor message switch) initialization. Valid values are:                                           |
| 0 | = No CNI ring in office.                                                                                                                              |
| 2 | = C2 [initialization without disturbing CNI office-dependent data (ODD)].                                                                             |
| 3 | = C3 (pump CNI ODD to AM and ring).                                                                                                                   |
| 4 | = C4 (full pump on the entire CNI ring).                                                                                                              |
| 7 | = No CNI initialization level specified (yet).                                                                                                        |
| x | = Type of initialization. Valid values are:                                                                                                           |
| 0 | = AM only initialization.                                                                                                                             |
| 1 | = System-wide initialization, conditional SM full pump.                                                                                               |
| 2 | = System-wide initialization, unconditional SM full pump.                                                                                             |
| y | = AM Automatic initialization escalation counter.                                                                                                     |
| z | = AM event number (in hexadecimal).                                                                                                                   |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM indicates the extent of initialization activity which will accompany the current high-level AM initialization. The event number can be used to correlate the AM initialization with postmortem messages.

## 6. CORRECTIVE ACTION

If the escalation counter reaches the value '09', it is unlikely that the AM will recover itself automatically. Therefore, manual recovery actions should be attempted.

**PRM:EExx-50xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 50tt uu00 wxyz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

System inhibit status.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

50 = Application function (AIM application parameter and system inhibit).

t = Acknowledgement for application parameter entered. Valid values are:

| Output | Value | Description                                                                                  |
|--------|-------|----------------------------------------------------------------------------------------------|
| 00     | NULL  | No application parameter selected.                                                           |
| 01     | OK    | Selected application parameter valid and action taken.                                       |
| 02     | IP    | Selected application parameter valid and action pending.                                     |
| AA     | RL    | Selected application parameter/initialization level combination invalid at the present time. |

|    |    |                                                                                      |
|----|----|--------------------------------------------------------------------------------------|
| FF | NG | Selected application parameter/initialization level combination invalid at any time. |
|----|----|--------------------------------------------------------------------------------------|

u = Hexadecimal encoding of emergency action interface (EAI) application parameter. If zero, no application parameter was entered. The following is a hex to ASCII conversion table. Refer to the "Emergency Action Interface Maintenance Parameters" table in the System Recovery Manual, 235-105-250.

|        |        |        |         |        |        |        |        |
|--------|--------|--------|---------|--------|--------|--------|--------|
| 21 = ! | 22 = " | 23 = # | 24 = \$ | 25 = % | 26 = & | 27 = ` | 28 = ( |
| 29 = ) | 2a = * | 2b = + | 2c = ,  | 2d = - | 2e = . | 2f = / | 30 = 0 |
| 31 = 1 | 32 = 2 | 33 = 3 | 34 = 4  | 35 = 5 | 36 = 6 | 37 = 7 | 38 = 8 |
| 39 = 9 | 3a = : | 3b = ; | 3c = <  | 3d = = | 3e = > | 3f = ? | 40 = @ |
| 41 = A | 42 = B | 43 = C | 44 = D  | 45 = E | 46 = F | 47 = G | 48 = H |
| 49 = I | 4a = J | 4b = K | 4c = L  | 4d = M | 4e = N | 4f = O | 50 = P |
| 51 = Q | 52 = R | 53 = S | 54 = T  | 55 = U | 56 = V | 57 = W | 58 = X |
| 59 = Y | 5a = Z | 5b = [ | 5c = \  | 5d = ] | 5e = ^ | 5f = _ | 60 = ` |
| 61 = a | 62 = b | 63 = c | 64 = d  | 65 = e | 66 = f | 67 = g | 68 = h |
| 69 = i | 6a = j | 6b = k | 6c = l  | 6d = m | 6e = n | 6f = o | 70 = p |
| 71 = q | 72 = r | 73 = s | 74 = t  | 75 = u | 76 = v | 77 = w | 78 = x |
| 79 = y | 7a = z | 7b = { | 7c =    | 7d = } | 7e = ~ |        |        |

w = Hardware/software inhibits (bits numbered right to left 3-2-1-0). Valid values are:

| Bit | Value | Description                                  |
|-----|-------|----------------------------------------------|
| 3   | 1     | Manual software checks are inhibited.        |
|     | 0     | Manual software checks are not inhibited.    |
| 2   | 1     | Automatic software checks are inhibited.     |
|     | 0     | Automatic software checks are not inhibited. |
| 1   | 1     | Manual hardware checks are inhibited.        |
|     | 0     | Manual hardware checks are not inhibited.    |
| 0   | 1     | Automatic hardware checks are inhibited.     |
|     | 0     | Automatic hardware checks are not inhibited. |

x = PRM status (bits numbered right to left 3-2-1-0). Valid values are:

| Bit | Value | Description                                                                                                                                   |
|-----|-------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 3   | 1     | Communication module (CM) isolation requested. Look for message REPT CM ISOLATED FROM AM to insure that the CM has been isolated from the AM. |
|     | 0     | CM isolation not requested.                                                                                                                   |
| 2   | 1     | CM global hardware check inhibit requested.                                                                                                   |
|     | 0     | CM global hardware check inhibit not requested.                                                                                               |
| 1   | 1     | Is in retrofit.                                                                                                                               |
|     | 0     | Is not in retrofit.                                                                                                                           |
| 0   | 1     | Verbose PRM mode bit.                                                                                                                         |
|     | 0     | Not verbose PRM mode bit.                                                                                                                     |

y = Miscellaneous status (bits numbered right to left 3-2-1-0). Valid values are:

| Bit | Value | Description                                                           |
|-----|-------|-----------------------------------------------------------------------|
| 3   | 1     | Operational kernel process (OKP) routine audit is in inhibit.         |
|     | 0     | OKP routine audit is not in inhibit.                                  |
| 2   | 1     | Switch maintenance kernel process (SMKP) routine audit is in inhibit. |
|     | 0     | SMKP routine audit is not in inhibit.                                 |
| 1   | 1     | Back out AM RCs on D2-D4.                                             |
|     | 0     | Back out AM RCs not on D2-D4.                                         |
| 0   | 1     | AM MIN mode.                                                          |
|     | 0     | AM not MIN mode.                                                      |

z = Hardware (HW) force status (bits numbered right to left 3-2-1-0). Valid values are:

| Bit | Value | Description                                                   |
|-----|-------|---------------------------------------------------------------|
| 3   | 1     | Force message switch (MSGs) side 1 active.                    |
|     | 0     | Force MSGs side 1 not active.                                 |
| 2   | 1     | Force MSGs side 0 active.                                     |
|     | 0     | Force MSGs side 0 not active.                                 |
| 1   | 1     | Force office network and timing complex (ONTC) side 1 active. |
|     | 0     | Force ONTC side 1 not active.                                 |
| 0   | 1     | Force ONTC side 0 active.                                     |
|     | 0     | Force ONTC side 0 not active.                                 |

|  |   |                               |
|--|---|-------------------------------|
|  | 0 | Force ONTC side 0 not active. |
|--|---|-------------------------------|

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM documents the system's response to Master Control Center (MCC) inhibits and application parameters that are in effect at the start of an AM high-level initialization.

## 6. CORRECTIVE ACTION

None. This is an informational PRM.

**PRM:EExx-5400****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 5400 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Data delivery (DD) protected application segment (PAS) zero.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

5400 = Application function (DD PAS zero on CU hard switch).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An administrative module (AM) CU fault in the active CU resulted in a CU hard switch without the necessary memory update. Zero the DD portion of the PAS to place the CU memory in a known state.

## **6. CORRECTIVE ACTION**

All manual system integrity information associated with the administrative module/switch module (AM/SM) has been lost (that is, all information displayed on Master Control Center (MCC) menu pages 110 and 1800 has been lost). Review and reapply any of this information that is still appropriate.



**PRM:EExx-55xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 55 yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Inform operators of master control center (MCC) throttle state. The MMC throttle controls the rate at which messages are passed to HMMcc, which control the display administration process (DAP) menu pages. This is an optional PRM that can be turned on using a 42!J!50 emergency action interface (EAI) poke.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

55 = Application function (MCC throttle).

y = Current state of MCC throttle. Valid values are:

00 = Throttle turned off.

01 = Throttle turned on.

z = Dump of real-time clock.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM informs the operator about the current status of the MCC throttle that is set by AIM. This is an optional PRM that can be turned on using a 42!J!50 EAI poke.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-56xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 56yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Inform operators of teletypewriter (TTY) output message throttle state. This is an optional PRM that can be turned on using a 42!J!50 emergency action interface (EAI) poke.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

56 = Application function (TTY throttle).

y = Current state of TTY throttle. Valid values are:

00 = Throttle turned off.

01 = Throttle turned on to slowdown state.

02 = Throttle turned on to overload state.

03 = Throttle turned on to critical state.

z = Dump of real-time clock.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM informs the operator about the current status of the TTY output message throttle that is set by AIM. This is an optional PRM that can be turned on using a 42!J!50 EAI poke.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-5700****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 5700 wwx yyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Disk independent operation (DIOP) entry.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

5700 = Application function [disk independent operation (DIOP) entry].

w = AMA counter 1 value - AMpas2.AMdiopctr[0].

x = AMA counter 2 value - AMpas2.AMdiopctr[1].

y = AMA percentage 1 value - AMpas2.AMdiopper[0].

- z = AMA percentage 2 value - AMpas2.AMdiopper[1].
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This is a five minute reminder that the system is in DIOP. The contents of variables *w* and/or *x* will be incrementing for AMA stream 1 and/or AMA stream 2, if billing data is being written to disk. The contents for *y* and/or *z* will reflect the truncated percentage of data on disk for AMA stream 1 and/or AMA stream 2, respectively, if billing data is being written to disk. If either of these percentage is 100%, then the field is filled with 99.

## 6. CORRECTIVE ACTION

Verify the true status of the disks. If the system is correctly in DIOP, repair the disks and clear the DIOP mode with a high-level AM initialization. Refer to 235-105-250, System Recovery Manual section entitled "Recover From Disk Independent Mode of Operation" or refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:EExx-5780****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 5780 yyyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Disk independent operation (DIOP) entry.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

5780 = Application function (DIOP entry).

y = Number of outgoing trunk calls in last 5 minute period - MSpkgbuf.pkg3.outg.

z = Number of incoming trunk calls in last 5 minute period - MSpkgbuf.pkg3.inc.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This is a five minute reminder that the system is in DIOP. The contents of variables  $y$  and/or  $z$  will be non-zero if trunk calls are completing.

## 6. CORRECTIVE ACTION

Verify the true status of the disks. If the system is correctly in DIOP, repair the disks and clear the DIOP mode with a high-level administrative module (AM) initialization. Refer to 235-105-250, System Recovery Manual section entitled "Recover From Disk Independent Mode of Operation" or refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.



**PRM:EExx-5800****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 5800 0001 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Inconsistent disk independent operation (DIOP) mode operation (that is, the DIOP mode is incorrectly in effect).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

5800 = Application function (inconsistent DIOP mode operation).

z = Valid values are:

0000 = DDDIOPMODE data delivery bit incorrect and has been corrected.

0001 = Disk 0/1 available in DIOP.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

| If 'z' = | Action:                                                                                                                                                          |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0000     | The system is in DIOP mode, but the corresponding data delivery status indicates incorrectly that the disk mode is normal; the inconsistency has been corrected. |
| 0001     | Disk 0 or disk 1 is in-service and the system is still in disk independent operation; this is an inconsistency.                                                  |

## 6. CORRECTIVE ACTION

Verify the true status of the disks. Check that disk 0 or 1 is truly available. If yes, then remove the system from DIOP mode with a high-level administrative module (AM) initialization. Refer to 235-105-250, System Recovery Manual section entitled "Recover From Disk Independent Mode of Operation" or seek technical assistance.

**PRM:EExx-5Exx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 5Eww xxyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Information on software release being booted. Inform operators of software release now being booted.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Software release version. Valid values are:

10 = Software release booting is 5E10.

11 = Software release booting is 5E11.

12 = Software release booting is 5E12.

|   |    |                                                                                                                                                       |
|---|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | 13 | = Software release booting is 5E13.                                                                                                                   |
| x |    | = Release of software release. Valid values are:                                                                                                      |
|   | 01 | = Software release 1 [for example, 5E5(1)].                                                                                                           |
|   | 02 | = Software release 2 [for example, 5E6(2)].                                                                                                           |
| y |    | = Release of generic.                                                                                                                                 |
| z |    | = Point load of release of software release.                                                                                                          |
| h |    | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM informs operators of the software release being booted without the need to wait for the Master Control Center (MCC) to relate the software release information.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-5F06****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 5F06 xxxx yyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

AIM initialization timeout (associated with the specified operating system application process) occurred, but initialization has completed anyway.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

5F06 = Application function (initialization timeout and completion).

x = Operating system application process utility ID. Valid values are:

017 = First in-first out (FIFO) driver (FDA).

0C0 = Input/output driver (IODRV).

|     |                                                                                                                                                        |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0C2 | = Scan and signal distributor administration (SCSD).                                                                                                   |
| 117 | = Plant measurement database monitor (PLDMON).                                                                                                         |
| 186 | = Kernel level overload monitor (KLMON).                                                                                                               |
| 188 | = Operating system supervisor overload monitor process (SUOVPRC).                                                                                      |
| 406 | = Process to load ODD onto disk (PLOD).                                                                                                                |
| 407 | = Application data link (APDL).                                                                                                                        |
| 410 | = Switch maintenance kernel process (SMKP).                                                                                                            |
| 411 | = Switch maintenance power switch monitor (SMPSM).                                                                                                     |
| 420 | = Communications kernel process (CMKP).                                                                                                                |
| 430 | = Message switch kernel process (MSKP).                                                                                                                |
| 450 | = Pump control (PUCR).                                                                                                                                 |
| 451 | = Automatic message accounting disk writer (AMDW).                                                                                                     |
| 455 | = Recent change kernel process (RCKP, not valid for 5E6 and later).                                                                                    |
| 460 | = Operational kernel process (OKP).                                                                                                                    |
| 47A | = Ring monitor (RINGMON).                                                                                                                              |
| 4E4 | = Common network interface initialization (CNIINIT).                                                                                                   |
| 590 | = Process for loading ODD into PAS (PLOP).                                                                                                             |
| 710 | = Switch maintenance diagnostic input message processor (SMDIMP). SMDIMP is also referred to as deferred maintenance administrator and monitor (DMAM). |
| 7DD | = Automatic message accounting disk writer 1 (AMDW1).                                                                                                  |
| 7CE | = Automatic message accounting disk writer 2 (AMDW2).                                                                                                  |

y = Failed process sequence state. Valid values are:

|    |                                      |
|----|--------------------------------------|
| 00 | = Created (booted from disk).        |
| 01 | = Software initialization.           |
| 02 | = Hardware initialization.           |
| 03 | = Communication link initialization. |
| 04 | = Enable fault recovery.             |
| 05 | = Essential jobs operational.        |
| 06 | = Fully operational.                 |

07 = Aborting.

z = Process run state. Valid values are:

00 = Process was still performing initialization step.

01 = Process had completed initialization step.

02 = Process timed out.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

At this point, all operating system application processes should have completed sequencing to the fully operational state. However, the specified process did not. If this is an essential process, the HW/SW inhibits must be on. If so, no initialization will occur; however, the system will not have essential functionality. If this is a non-essential process, the HW/SW inhibit state is a don't care; non-critical functionality is lost and AIM will automatically attempt to full process initialization (FPI) the specified process.

## 6. CORRECTIVE ACTION

Monitor the system for lost functionality associated with the specified process. If significant periods of times (that is, several minutes) elapse without this functionality, attempt to manually recover this functionality. The situation should be dealt with as follows:

- Apply Master Control Center (MCC) controls (for example, inhibits).
- Request processor reconfiguration (for example, force CU/disks).
- Request higher manual initializations (for example, 53).
- Refer to System Recovery Manual, 235-105-250.
- Refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:EExx-60xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 60st uwww xyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

5ESS® switch (operating system application process) initialization progress.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

60 = Application function (switch general initialization progress).

s = Administrative module (AM) software (SW) initialization level. Valid values are:

0 = S0 (no AM SW initialization).

2 = S2 (D1 equals a single process purge (SPP) on all operating system application processes).



- 4 = S4 (C1 initialization).
- 5 = S5 [application full process init (FPI)].
- 6 = S6 (AM SW initialization with out clearing phase protected data).
- 7 = S7 (AM SW initialization with phase protected data cleared).

t = AM communication module (CM) hardware (HW) initialization level. Valid values are:

- 0 = H0 (no CM HW initialization).
- 2 = H2 (AM-CM resynchronization, no CM pump or initialization).
- 3 = H3 [time multiplex switch (TMS) talking paths and network clock preserved].
- 4 = H4 (TMS talking paths opened and network clock initialization).

u = CNI ring (common network interface/interprocessor message switch) initialization. Valid values are:

- 0 = No CNI initialization level specified at this time. (This can also indicate that the office is not equipped with a CNI ring).
- 1 = C1 (close and reopen CNI channels).
- 2 = C2 [initialization without disturbing CNI office dependent data (ODD)].
- 3 = C3 (pump CNI ODD to administrative module [AM] and ring).
- 4 = C4 (full pump on the entire CNI ring).
- 5 = C5 (initialize DLN DMA table).
- 6 = C6 (start of a RINGMON FPI).

w = Operating system application process utility ID. Valid values are:

- 017 = FIFO driver (FDA).
- 0C0 = Input/output driver (IODRV).
- 0C2 = Scan and signal distributor administration (SCSD).
- 117 = Plant measurement database monitor (PLDMON).
- 186 = Kernel level overload monitor (KLMON).
- 188 = Operating system supervisor overload monitor process (SUOVPRC).
- 406 = Process to load ODD onto disk (PLOD).
- 407 = Application data link (APDL).

|     |                                                                                                                                              |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------|
| 410 | = Switch maintenance kernel process (SMKP).                                                                                                  |
| 411 | = Switch maintenance power switch monitor (SMPSM).                                                                                           |
| 420 | = Communications kernel process (CMKP).                                                                                                      |
| 430 | = Message switch kernel process (MSKP).                                                                                                      |
| 450 | = Pump control (PUCR).                                                                                                                       |
| 455 | = Recent change kernel process (RCKP) - not valid in 5E6 and later.                                                                          |
| 460 | = Operational kernel process (OKP).                                                                                                          |
| 47A | = Ring monitor (RINGMON).                                                                                                                    |
| 4E4 | = Common network interface initialization (CNIINIT).                                                                                         |
| 590 | = Process for loading ODD into PAS (PLOP).                                                                                                   |
| 710 | = Switch maintenance diagnostic input message processor (SMDIMP), also referred to as deferred maintenance administrator and monitor (DMAM). |
| 7DD | = Automatic message accounting disk writer 1 (AMDW1).                                                                                        |
| 7CE | = Automatic message accounting disk writer 2 (AMDW2).                                                                                        |

x = Initialization sequence state. Valid values are:

|   |                                      |
|---|--------------------------------------|
| 0 | = Created (booted from disk).        |
| 1 | = Software initialization.           |
| 2 | = Hardware initialization.           |
| 3 | = Communication link initialization. |
| 4 | = Enable fault recovery.             |
| 5 | = Essential jobs operational.        |
| 6 | = Fully operational.                 |
| 7 | = Aborting.                          |

y = Success/failure indication. Valid values are:

|   |                                               |
|---|-----------------------------------------------|
| 0 | = Initialization step completed successfully. |
| 1 | = Initialization step failed.                 |
| 2 | = Initialization step timeout.                |
| 3 | = Initialization step in-progress.            |

- 4 = Initialization step not attempted.
- A = Process abort or re-initialization starting.
- B = Initialization step beginning (use EAI poke 42!J!50 to turn on).
- D = Death of child received for this process.

z = Initialization progress points. Valid values are:

- 00 = Normal operation (no initialization or safe interval).
- 01 = AIM created.
- 02 = 5E critical creations requested (phase 1 creations in progress).
- 03 = DB/DD initialization completed.
- 04 = Common channel signaling (CCS) critical creations requested (phase 2 creations in progress).
- 06 = SMKP SOFTINIT completed.
- 07 = MSKP SOFTINIT completed.
- 08 = OKP SOFTINIT completed.
- 09 = CNIINIT SOFTINIT completed.
- 10 = 5ESS<sup>®</sup> switch call processing on.
- 20 = CCS call processing on (phase 3 creations in progress).
- 40 = Call support creations requested (phase 4 creations in progress).
- 60 = ULARP HM processes created.
- 80 = ULARP MTCE processes created.
- A0 = Switch/operating system non-critical creations requested (phase 5 creations in progress).
- C4 = CCS non-critical creations requested (all essential processes except CNIINIT are fully operational).
- E4 = ULARP RC/DB processes created.
- F4 = ULARP AS/TM processes created.
- FF = ULARP deferred processes created (begin safe interval).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints these PRMs as the operating system application processes complete (or fail to complete) each of their required initialization sequence states.

**6. CORRECTIVE ACTION**

None. These PRMs are informational only. Other failure PRMs will be printed if operator actions are required.

**PRM:EExx-61xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 61yy 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

AM software initialization progress marks from within the switch kernel process that operate under the operating system for distributed systems (OSDS), that is, switch maintenance kernel process (SMKP) and operational kernel process (OKP). This is an optional PRM that can be turned on using a 42!J!50 emergency action interface (EAI) poke.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

61 = Application function (OSDS KP initialization progress).

y = Operating system application process. Valid values are:

01 = Switch maintenance kernel process (SMKP).

03 = Operational kernel process (OKP).

z = Recovery progress count indicating forward OSDS progress in the initialization. If SMKP is the source of this PRM, the count (which is stored in IMsrcvycnt) begins at 1401 and ends at 1408. If OKP is the source of this PRM, the count (which is stored in IMrcvycnt) begins at 0401 and ends at 040F. Valid values are:

1401  
1404  
1408  
0401  
0402  
0403  
0404  
0405  
0406  
0407  
0408  
0409  
040A  
040B  
040C  
040D  
040E  
040F

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM gives an indication of software initialization activity within the specified AM OSDS kernel process.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-68xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 68yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

AIM detected a kernel level lockout. This PRM indicates the process ID and execution level of the locked-out kernel process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Execution level at which lockout (no activity) was detected.

z = Number of times a check of forward progress has failed.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

This PRM lists the execution level at which no activity was detected during a kernel level lockout. AIM prints this PRM after detecting a lack of activity for the kernel process execution level indicated. If the lockout is not cleared, this PRM will be followed by an AIM-triggered level-1 fault to all existing kernel processes (refer to PRM:EEEx-FF0D and PRM:FExx-FF0D).

## **6. CORRECTIVE ACTION**

None. These PRMs are informational only.



**PRM:EExx-69xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 69yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Inform operators of a hold-tight condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

69 = Application function (AIM hold-tight).

y = Condition of hold-tight. Valid values are:

00 = Hold-tight is off.

01 = Hold-tight is on.

FF = Escalation is denied by hold-tight.

z = Dump of real-time clock.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

Hold-tight is a condition where critical functionality has been lost, but a recovery program is actively trying to restore that functionality. All other monitor programs are therefore requested to hold-tight and await the end of the recovery. This is a timed condition that can last for no more than several seconds. When the recovery program is done, it will either have recovered the lost functionality or it will attempt to phase the administrative module (AM). If functionality was recovered, all monitor program detected abnormalities will again be acted upon. This PRM informs the operator when hold-tight is requested and when hold-tight has expired. It also indicates when an initialization request has been denied by hold-tight.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-700x****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 700x yyyy zzzz hh hh hh

**2. PRM SOURCE**

Common channel signaling (CCS) initialization (CCSINIT) kernel process.

**3. FUNCTION**

Reporting success or failure when mounting /cmp file system for the common network interface (CNI) system during a CNI level 3 full process initialization (FPI) or level 4 full initialization (FI).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

700 = Application function (CNI /cmp partition mount).

x = CNI ring (common network interface/interprocessor message switch) initialization level. Valid values are:

3 = FPI (pump CNI ODD to administrative module (AM) and ring).

|      |                                                                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4    | = FI (full pump on the entire CNI ring).                                                                                                              |
| y    | = Success/failure indicator. Valid values are:                                                                                                        |
| 0000 | = Disk partition /cmp mounted successfully.                                                                                                           |
| 0001 | = Disk partition /cmp could not be mounted.                                                                                                           |
| z    | = Error code returned by the file manager (FMGR) in case of a partition mount failure (y = 0001).                                                     |
| h    | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM is printed by the CCSINIT kernel process during a CNI, FPI or FI to indicate the result of mounting the /cmp disk partition.

## 6. CORRECTIVE ACTION

If y = 0001 use the z error code and the "UNIX® RTR Operating System Error Codes" in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual. to determine the reason for the failure. Check that the files, directories, and partition required to perform this step exist in their proper locations.

**PRM:EExx-710x****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 710w xxxx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) kernel process.

**3. FUNCTION**

Common network interface initialization kernel process (CNIINIT) child process initialization progress during CNI level 3 full process initialization (lv3) or level 4 full initialization (lv4).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

710 = Application function (CCS initialization progress).

w = CNI ring (common network interface/interprocessor message switch) initialization. Valid values are:

3 = FPI [pump CNI ODD to administrative module (AM) and ring].

|      |                                                                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4    | = FI (full pump on the entire CNI ring).                                                                                                              |
| x    | = Operating system application process utility ID. Valid values are:                                                                                  |
| 04E4 | = CNIINIT                                                                                                                                             |
| y    | = Initialization sequence completed. Valid values are:                                                                                                |
| 00   | = Created (booted from disk).                                                                                                                         |
| 01   | = Software initialization.                                                                                                                            |
| 06   | = Fully operational.                                                                                                                                  |
| z    | = Success/failure indication. Valid values are:                                                                                                       |
| 03   | = Progress indication.                                                                                                                                |
| h    | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM is printed by the application integrity monitor (AIM) kernel process during a CNI level 3 or level 4 initialization to indicate CNI/IMS forward initialization progress. After 60 seconds without any completion reports (this usually indicates that IMS is pumping the CNI ring), AIM monitors a CNI global variable (cl\_snoop) to determine if CNI is making forward progress. If cl\_snoop is non-zero, AIM increments a variable (CCcnisucctr) and zeros the cl\_snoop variable. CNI/IMS is allowed a minimum of 6 minutes (CCPROGMAX) without any AIM detectable progress and a maximum of 12 minutes (CCNOPROGMAX) with some AIM detectable progress. This assumes that some other concurrent AM initialization activity was taking place, since AIM will never allow more than 2 minutes without some low level indication of progress or 6 minutes without some high level indication of progress.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-711x****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 711y 0000 000z hh hh hh

**2. PRM SOURCE**

Common channel signaling (CCS) signaling status change.

**3. FUNCTION**

Last link of a given signaling type [direct, trunk or transaction capabilities application part (TCAP)] has transitioned out-of-service or first link of a given type (direct, trunk or TCAP) has transitioned into service.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

711 = Application function (CCS signaling status change).

y = Signaling type. Valid values are:

0 = Direct signaling (DDCNIOOS).

1 = Trunk signaling (DDCNITSOOS).

2 = TCAP signaling (DDCCS7OOS).

z = Status. Valid values are:

0 = Out-of-service.

1 = In-service.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is printed by the operational kernel process (OKP) data delivery process, CCddupdate(), when the status of CCS direct, trunk or TCAP signaling changes to in-service or out-of-service.

## 6. CORRECTIVE ACTION

Continue to monitor out-of-service transitions until an in-service status is seen. If a CNI initialization is in progress, monitor the initialization progress. If there is no in-progress CNI initialization, determine if the related link node is in-service or out-of-service. If the corresponding link node is out-of-service, monitor and/or repair the link node. If the corresponding link node is still in-service, determine if the signaling problem is within the office, in the signaling links, or with the signal transfer point (STP).



**PRM:EExx-720x****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 720w xxxx yyzz hh hh hh

**2. PRM SOURCE**

Common channel signaling (CCS) ring monitor (RINGMON) kernel process.

**3. FUNCTION**

To report detection and correction of a discrepancy in the CCS signaling status indicators during an initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Signaling audit item. Valid values are:

1 = DDCNIOOS. Data delivery (DD) bit for CCS direct signaling.

2 = CCSCNI. Global status indicator for CCS direct signaling.

3 = DDCNITSOOS. DD bit for CCS trunk signaling.

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4  | = CCSCNITS. Global status indicator for CCS trunk signaling.                                                                                          |
| 5  | = DDCCS7OOS. DD bit for CCS transaction capabilities application part (TCAP) signaling.                                                               |
| 6  | = CCSCCS7. Global status indicator for CCS TCAP signaling.                                                                                            |
| 7  | = Equipage status of CCS direct signaling.                                                                                                            |
| 8  | = Equipage status of CCS trunk signaling.                                                                                                             |
| 9  | = Equipage status of CCS TCAP signaling.                                                                                                              |
| x  | = Unused.                                                                                                                                             |
| y  | = Unused.                                                                                                                                             |
| z  | = Status of the item after the audit. Valid values are:                                                                                               |
| 00 | = In-service.                                                                                                                                         |
| 01 | = Out-of-service.                                                                                                                                     |
| 02 | = Equipped.                                                                                                                                           |
| 03 | = Unequipped.                                                                                                                                         |
| h  | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM is printed by the RINGMON kernel process during a CNI initialization. It indicates detection and correction of discrepancies in the CCS signaling status indicators.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-72xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 72yy 0000 000z hh hh hh

**2. PRM SOURCE**

CNI ring monitor (RINGMON).

**3. FUNCTION**

Report RINGMON audit error of common channel signaling (CCS) data delivery (DD) bits (DDCNIOOS, DDCNITSOOS, DDCCS7OOS) against the actual CNI ring status (CCring\_st, CCringts\_st, CCringtrc\_st).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

72 = RINGMON CCS audit.

y, z = Valid values are:

| y  | z | RING STATUS<br>CCrupstat() | DDSTATUS<br>DDCNIOOS | CNI GLOBAL STATUS<br>CCSCNI() | ACTION IS/OOS |
|----|---|----------------------------|----------------------|-------------------------------|---------------|
| 01 | 0 | CCSIGON                    | DDSET                | -                             | IS            |
| 02 | 0 | CCSIGON                    | DDCLEAR              | CCOUTSERV                     | IS            |

|    |   |           |         |          |     |
|----|---|-----------|---------|----------|-----|
| 01 | 1 | CCSIGOFF  | DDCLEAR | -        | OOS |
| 02 | 1 | CCSIGOFF  | DDSET   | CCINSERV | OOS |
| 01 | 1 | CCSIGUNEQ | DDCLEAR | -        | OOS |
| 02 | 1 | CCSIGUNEQ | DDSET   | CCINSERV | OOS |

| y  | z | RING STATUS<br>CCruptsstat() | DDSTATUS<br>DDCNITSOOS | CNI GLOBAL STATUS<br>CCWSSCNITS() | ACTION IS/OOS |
|----|---|------------------------------|------------------------|-----------------------------------|---------------|
| 03 | 0 | CCSIGON                      | DDSET                  | -                                 | IS            |
| 04 | 0 | CCSIGON                      | DDCLEAR                | CCOUTSERV                         | IS            |
| 03 | 1 | CCSIGOFF                     | DDCLEAR                | -                                 | OOS           |
| 04 | 1 | CCSIGOFF                     | DDSET                  | CCINSERV                          | OOS           |
| 03 | 1 | CCSIGUNEQ                    | DDCLEAR                | -                                 | OOS           |
| 04 | 1 | CCSIGUNEQ                    | DDSET                  | CCINSERV                          | OOS           |

| y  | z | RING STATUS<br>CCruptcstat() | DDSTATUS<br>DDCCS7OOS | CNI GLOBAL STATUS<br>CCWSCCS7() | ACTION IS/OOS |
|----|---|------------------------------|-----------------------|---------------------------------|---------------|
| 05 | 0 | CCSIGON                      | DDSET                 | -                               | IS            |
| 06 | 0 | CCSIGON                      | DDCLEAR               | CCOUTSERV                       | IS            |
| 05 | 1 | CCSIGOFF                     | DDCLEAR               | -                               | OOS           |
| 06 | 1 | CCSIGOFF                     | DDSET                 | CCINSERV                        | OOS           |
| 05 | 1 | CCSIGUNEQ                    | DDCLEAR               | -                               | OOS           |
| 06 | 1 | CCSIGUNEQ                    | DDSET                 | CCINSERV                        | OOS           |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The RINGMON CCS DD audit is periodically called to audit the DDCNIOOS data delivery bit. It does this by first updating the CCring\_st structure by calling CCrupstat() and then checking to see if the CNI should be in-service (IS) or out-of-service (OOS). It then audits the DDCNITSOOS DD bit by calling CCruptsstat() to update the CCringts\_st structure and then checking if CNI trunk signaling should be IS. It then audits the DDCCS7OOS DD bit by calling CCruptcstat() to update the CCringtc\_st structure and then checking ifTCAP signaling should be IS.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-7300****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 7300 0000 0000 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) ring monitor (RINGMON).

**3. FUNCTION**

Report RINGMON duplex direct link node (DLN) failure during initialization (that is, failure to get an active DLN).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7300 = RINGMON duplex DLN failure.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

RINGMON could not obtain an active DLN during its initialization sequence.

## **6. CORRECTIVE ACTION**

If significant periods of times (that is, several minutes) elapse with no forward progress or escalation to higher initialization, the situation should be dealt with as follows:

- Apply Master Control Center (MCC) controls (for example, inhibits).
- Request processor reconfiguration (for example, force CU/Disks).
- Request higher manual initializations (for example, 42!P!53).
- Go into CNI MIN mode and diagnose the DLNs and the CNI ring.
- Refer to 235-105-250, System Recovery Manual.
- Refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:EExx-730x****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 730q rstu wxyz hh hh hh

**2. PRM SOURCE**

Common channel signaling (CCS) ring monitor (RINGMON) kernel process.

**3. FUNCTION**

To report that RINGMON has made some progress during a common network interface (CNI) initialization or direct link node (DLN) recovery action.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

q = RINGMON initialization progress point. Valid values are:

1 = CCS start traffic sequence was begun.

2 = Start of DLN initialization interval has occurred.

3 = DLN restoration has completed.

|   |   |                                                                            |
|---|---|----------------------------------------------------------------------------|
|   | 4 | = DLN restart has completed.                                               |
|   | 5 | = CCS start traffic sequence has completed.                                |
| r |   | = CNI level of initialization in progress. Valid values are:               |
|   | 1 | = CNI level 1 initialization.                                              |
|   | 2 | = CNI level 2 initialization.                                              |
|   | 3 | = CNI level 3 initialization.                                              |
|   | 4 | = CNI level 4 initialization.                                              |
|   | 7 | = No CNI level initialization.                                             |
| s |   | = Global parameter value for DLN equipage. Valid values are:               |
|   | 0 | = Unequipped.                                                              |
|   | 1 | = Equipped.                                                                |
| t |   | = Status of DLN queue 0. Valid values are:                                 |
|   | 0 | = Queue was grown to its maximum size.                                     |
|   | 1 | = Queue was grown to its minimum usable size.                              |
|   | 2 | = Queue growth is still in progress.                                       |
| u |   | = Status of DLN queue 1. Refer to variable t.                              |
| w |   | = Interprocessor message switch (IMS) state of DLN 00-2. Valid values are: |
|   | 0 | = Out-of-service (OOS).                                                    |
|   | 1 | = Active (ACT).                                                            |
| x |   | = CNI state of DLN 00-2. Valid values are:                                 |
|   | 0 | = OOS.                                                                     |
|   | 1 | = ACT.                                                                     |
|   | 2 | = Off-line (OFL).                                                          |
|   | 3 | = Standby (STBY).                                                          |
| y |   | = IMS state of DLN 32-2. Refer to variable w.                              |
| z |   | = CNI state of DLN 32-2. Refer to variable x.                              |



h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

This PRM is printed by the RINGMON kernel process during a CNI initialization or DLN recovery action. It indicates that significant progress has been made by RINGMON in achieving a normal operational state.

## **6. CORRECTIVE ACTION**

None.

**PRM:EExx-740x****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 740r stuw xyz hh hh hh

**2. PRM SOURCE**

Common channel signaling (CCS) ring monitor (RINGMON) kernel process.

**3. FUNCTION**

To report any automatic recovery action initiated by RINGMON.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

r = Type of recovery action. Valid values are:

0 = Direct link node (DLN) was removed.

1 = Common network interface (CNI) level 1 initialization was requested.

2 = CNI level 2 initialization was requested.

|   |    |                                                                                       |
|---|----|---------------------------------------------------------------------------------------|
|   | 3  | = CNI level 3 initialization was requested.                                           |
|   | 4  | = CNI level 4 initialization was requested.                                           |
| s |    | = Interprocessor message switch (IMS) state of DLN 00-2. Valid values are:            |
|   | 0  | = Out-of-service (OOS).                                                               |
|   | 1  | = Active (ACT).                                                                       |
| t |    | = CNI state of DLN 00-2. Valid values are:                                            |
|   | 0  | = OOS.                                                                                |
|   | 1  | = ACT.                                                                                |
|   | 2  | = Off-line (OFL).                                                                     |
|   | 3  | = Standby (STBY).                                                                     |
| u |    | = IMS state of DLN 32-2. Refer to variable s.                                         |
| w |    | = CNI state of DLN 32-2. Refer to variable t.                                         |
| x |    | = Not used.                                                                           |
| y |    | = Error type. Valid values are:                                                       |
|   | 00 | = An action conflict occurred between DLNs.                                           |
|   | 01 | = A direct memory access (DMA) job request in the DLN failed.                         |
|   | 02 | = A DLN queue pointer was out of range, and was detected by the DLN.                  |
|   | 03 | = The DLN's DMA state failed to progress within 750 ms.                               |
|   | 04 | = A DLN detected a message of inconsistent size in the queue.                         |
|   | 05 | = A message switch control unit (MSCU) queue pointer was out of range.                |
|   | 06 | = The DLN output queue overflowed.                                                    |
|   | 07 | = The DLN input queue overflowed.                                                     |
|   | 08 | = A DLN queue pointer was out of range, and was detected by the MSCU.                 |
|   | 09 | = An MSCU detected a message of inconsistent size in the queue.                       |
|   | 0A | = The DLN heartbeat test failed due to inconsistencies in the logical link map (LLM). |
|   | 0B | = The DLN heartbeat test timed out after several attempts.                            |
|   | 0C | = The DLN heartbeat test failed because the tested DLN was not active.                |

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0D | = The DLN heartbeat test failed because the MSCU was unable to handle the message.                                                                    |
| 0E | = The DLN heartbeat test failed because a SM failed to respond back to the DLN.                                                                       |
| 0F | = The DLN did not acknowledge the RINGMON message to begin scanning the queues.                                                                       |
| 10 | = RINGMON received a CNI message to acknowledge DLNs, but no DLN was active.                                                                          |
| 11 | = The RINGMON audit of the DLN variables revealed an error.                                                                                           |
| 12 | = RINGMON detected that it was being initialized without a concurrent CNI initialization.                                                             |
| 13 | = RINGMON exceeded its threshold of returned CNI messages.                                                                                            |
| 14 | = RINGMON timed out waiting for a start traffic message.                                                                                              |
| 15 | = RINGMON timed out waiting for the start traffic message sequence to complete.                                                                       |
| 16 | = RINGMON timed out waiting for a CNI DLN event message.                                                                                              |
| 17 | = DLN system integrity reports escalation of error recovery.                                                                                          |
| 18 | = The CNI ring can not communicate with the administrative module (AM).                                                                               |
| z  | = Indicates which DLN was implicated. Valid values are:                                                                                               |
| 0  | = DLN 00-2.                                                                                                                                           |
| 1  | = DLN 32-2.                                                                                                                                           |
| 2  | = The error stimulus was not the result of a DLN error.                                                                                               |
| h  | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM is printed by the RINGMON kernel process when a recovery action is initiated.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-75xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 75yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Common channel signaling (CCS) ring monitor (RINGMON) kernel process.

**3. FUNCTION**

To report a software fault received by RINGMON.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Conditional success. Some failure was encountered but it did not affect the bootstrap.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Operating system fault code that was received by RINGMON.

z = Value of the program address where the fault occurred.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is printed by the RINGMON kernel process when a software fault is received.

## 6. CORRECTIVE ACTION

If variable `y` is `E1`, then no action is required. This is a routine occurrence during initializations. For other fault codes, save output and refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:EExx-76xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da 76yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Common channel signaling (CCS) ring monitor (RINGMON) kernel process.

**3. FUNCTION**

To report a problem with RINGMON during a common network interface (CNI) initialization or direct link node (DLN) recovery action.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

76 = The PRM originates from CCS RINGMON kernel process.

y = Error code. Valid values are:

00 = RINGMON attachment to port failed.

01 = Initial attempt to open CNI channel failed.

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 | = Could not get a timer to retry opening the CNI channel.                                                                                             |
| 03 | = Channel requesting retry too many times.                                                                                                            |
| 04 | = Channel returned unknown error.                                                                                                                     |
| 05 | = Logical channel returned failure.                                                                                                                   |
| 06 | = DLN event message timer fired.                                                                                                                      |
| z  | = If not 0, the return code of function call triggering the PRM.                                                                                      |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM is generated by the RINGMON kernel process during a CNI initialization or DLN recovery action. It indicates that a problem exists that will prevent RINGMON from achieving a normal operational state. This PRM can only be seen if the software inhibit is on.

## 6. CORRECTIVE ACTION

The switch will continue to execute software without CCS connectivity. Once the switch has become stable, initiate a manual CNI level-4 initialization. Refer to the INIT:CNI input message in the Input Messages manual, 235-600-700. If the manual initialization fails to restore the ring to service, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.



**12. EExx-7F00 — EExx-7FFF**

**PRM:EExx-7F04****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F04 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected problem after receiving "BEGIN BOOT" message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

- z = Interprocessor message switch's (IMS's) process state (variable p\_state).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received the "BEGIN BOOT" message from imsdv.p. However, CNIINIT detected a problem in either sequencing or message sending.

## 6. CORRECTIVE ACTION

The software will correct itself. In some cases, no action will be taken at all. In other cases, CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem. No manual action is required on the part of the support personnel.

**PRM:EExx-7F09****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F09 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error during critical initialization with "MSACK" message from process manager.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the state where. Valid values are:

- 01 = The value of ms\_ident received from the process manager is out of range.
- 02 = The process table entry for the process identified by ms\_ident indicates it is a non-critical process.
- 03 = The process table entry for the process identified by ms\_ident indicates that the process is not in the "PENDING" state.
- 04 = The process table entry for the process identified by ms\_ident indicates that a PID already exists.
- 05 = The message received from the process manager was an error message. A printout of the message body also appears on the printout.
- 06 = The process created was imsdrv.p, but an attempt to send the "REQUEST LEVEL" message to interprocessor message switch (IMS) failed. s\_imsmsg() returned FAIL.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Valid values are:

| If "w" =             | "z" =                                                                                                                                                               |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01, 02, 03, 04 or 06 | The value ms_ident as received from the process manager.                                                                                                            |
| 05                   | The error return code (ms_stat) as received from the process manager. Refer to Table 4 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual. |

- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

During the critical portion of a boot initialization, CNIINIT received an "MSACK" message from the process manager. An error was detected.

## 6. CORRECTIVE ACTION

| If "w" =         | Action                                                                       |
|------------------|------------------------------------------------------------------------------|
| 01, 02, 03 or 04 | CNIINIT will take no action. The message is informational only.              |
| 05 or 06         | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F0B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F0B wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error during non-critical initialization with "MSACK" message from process manager.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the state where. Valid values are:

- 01 = The value of ms\_ident received from the process manager is out of range.
- 02 = The process table entry for the process identified by ms\_ident indicates it is a critical process.
- 03 = The process table entry for the process identified by ms\_ident indicates that the process is not in the "PENDING" state.
- 04 = The process table entry for the process identified by ms\_ident indicates that a PID already exists.
- 05 = The message received from the process manager was an error message. A printout of the message body also appears on the printout.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Valid values are:

| If "w" =         | "z" =                                                                                                                                                               |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01, 02, 03 or 04 | The value ms_ident as received from the process manager.                                                                                                            |
| 05               | The error return code (ms_stat) as received from the process manager. Refer to Table 4 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual. |

- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

During the non-critical portion of a boot initialization, CNIINIT received a "MSACK" message from the process manager. An error was detected.

## 6. CORRECTIVE ACTION

| If "w" =         | Action                                                                       |
|------------------|------------------------------------------------------------------------------|
| 01, 02, 03 or 04 | CNIINIT will take no action. The message is informational only.              |
| 05               | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F0F****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F0F 01yy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Level 0 initialization request received by CNI initialization kernel process (CNIINIT) while currently in initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

y = The state CNIINIT was in when the PRM was issued.

z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).



h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT received a request for level 0 initialization while an initialization was already in progress.

## **6. CORRECTIVE ACTION**

CNIINIT ignores this message. Allow CNIINIT to complete the initialization in progress.

**PRM:EExx-7F14****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F14 01yy zz00 hh hh hh

**2. PRM SOURCE**

Comman network interface (CNI) initialization process.

**3. FUNCTION**

Minimum mode (MINMODE) not valid for CNI level 3 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

y = The state CNIINIT was in when the PRM was issued.

z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The user requested a level 3 MINMODE boot. MINMODE is not valid at level 3, only level 4.

## **6. CORRECTIVE ACTION**

The MINMODE request is ignored. A normal level 3 boot is started.

**PRM:EExx-7F18****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F18 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) Initialization Process.

**3. FUNCTION**

Process died during CNI initialization kernel process (CNIINIT) level 1 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the state where. Valid values are:

01 = "ms\_ident" as received from *UNIX*<sup>®</sup> RTR Operating System is invalid.

- 02 = The process identified by "ms\_ident" is not a currently running CNIINIT child process, just a zombie dying off.
- 03 = The process identified by "ms\_ident" never reached the "RUNNING" state. Therefore, its death was premature.
- 04 = A level 1 is needed to restart the dead process, since CNIINIT is already in a level 1. No problem.
- 05 = The value for "rc\_type" in the process table is invalid - for the entry indicated by "ms\_ident".
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Contains the value "ms\_ident" as received from operating system.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT is in the early stages of a level 1 init. A process died. CNIINIT will correct.

## 6. CORRECTIVE ACTION

None. Allow the level 1 to continue.

**PRM:EExx-7F1D****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F1D wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error during level 1 initialization with "MSACK" message from process manager.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the state where. Valid values are:

- 01 = The value of ms\_ident received from the process manager is out of range.
- 02 = The process table entry for the process identified by ms\_ident has an invalid rc\_type.
- 03 = The process table entry for the process identified by ms\_ident indicates that the process is not in the "PENDING" state.
- 04 = The process table entry for the process identified by ms\_ident indicates that a "pid" already exists.
- 05 = The message received from the process manager was an error message. A printout of the message body also appears on the printout.
- 06 = The process created was imsdrv.p, but an attempt to send the "REQUEST LEVEL" message to interprocessor message switch (IMS) failed. s\_imsmsg() returned FAIL.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Valid values are:

| If "w" =             | "z" =                                                                                                                                                               |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01, 02, 03, 04 or 06 | The value ms_ident as received from the process manager.                                                                                                            |
| 05                   | The error return code (ms_stat) as received from the process manager. Refer to Table 4 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual. |

- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

During a level 1 initialization, CNIINIT received a "MSACK" message from the process manager indicating that a process had been created. An error was detected.

## 6. CORRECTIVE ACTION

| If "w" =         | Action                                                                       |
|------------------|------------------------------------------------------------------------------|
| 01, 02, 03 or 04 | CNIINIT will take no action. The message is informational only.              |
| 05 or 06         | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F1E****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F1E wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Process terminated during CNI initialization kernel process (CNIINIT) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = Error number within the state where. Valid values are:

01 = ms\_ident as received from operating system is invalid.



- 02 = The process identified by ms\_ident is not a currently running CNIINIT child process.
- 03 = The process identified by ms\_ident never reached the "RUNNING" state. Therefore, its death was premature.
- 04 = Process will be recreated by retry logic after the init is over.
- 05 = Unable to restart a process because an init is in progress.
- 06 = Bad data in the process table. Internal CNIINIT error.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = The value of ms\_ident - as received from operating system.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A process terminated during an initialization. The process is identified by variable z.

## 6. CORRECTIVE ACTION

| If "w" =         | Action                                                                       |
|------------------|------------------------------------------------------------------------------|
| 01, 02, 03 or 04 | CNIINIT will take no immediate action. The message is informational only.    |
| 05 or 06         | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F28****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F28 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) can not run level 0 initialization audit.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the state where. Valid values are:

01 = A request to run an audit has failed. The audit name index is at variable z.

02 = CNIINIT tried to set a timer after initiating the audit indicated by z, and the timer failed.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into the following audit table. Refer to the Audits manual, 235-600-400, for a full explanation of the following audits. Valid values are:

00 = Not applicable

01 = NIDATA

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT is in the process of running a LEVEL 0 init.

## 6. CORRECTIVE ACTION

CNIINIT aborts the audit sequence and sends a message to the application integrity monitor (AIM) that the audits have been completed.

**PRM:EExx-7F29****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F29 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) level 0 initialization audit failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the state where. Valid values are:

01 = The audit currently running returned a REPTAUD message acknowledgment that was not ACK\_OK. The variable z shows that value.

**NOTE:** The "REPTAUD" message is an internal software message, used within

the CNI software. The "REPTAUD" message will not appear on the Master Control Center (MCC) or on printout from the receive-only printer (ROP).

02 = An error threshold for audit failures has been exceeded. The audit sequence is aborted and a level 1 initialization is started (indicated at variable *g*) and the timer failed.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable *old\_state*).

z = Valid values are:

| If "w" = | "z" =                             |
|----------|-----------------------------------|
| 01       | Status of the REPTAUD message.    |
| 02       | Index of which audit was running. |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT is in the process of running a LEVEL 0 initialization. Other output messages previous to this one indicate which audit was running.

## 6. CORRECTIVE ACTION

For error 01 CNIINIT aborts the audit sequence and sends a message to the application integrity monitor (AIM) that the audits have been completed. For error 02 CNIINIT aborts the audit sequence and starts a LEVEL 1 initialization.

**PRM:EExx-7F2A****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F2A 01yy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) can not send "LEVEL\_0" message to interprocessor message switch (IMS).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

y = The state CNIINIT was in when the PRM was issued.

- z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has completed level 0 initialization, but failed in an attempt to send the LEVEL\_0 request message to interprocessor message switch (IMS).

## 6. CORRECTIVE ACTION

CNIINIT ignores this message and returns to its steady state.

**PRM:EExx-7F2C****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F2C 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on an audit to complete.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).



- z = The audit table index of the audit that was running and timed out of its completion.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT has timed out while waiting for an audit to complete.

## **6. CORRECTIVE ACTION**

CNIINIT sends the application integrity monitor (AIM) the COMPLETE LEVEL\_0 message, terminates the audit sequence, and goes back into its steady state.

**PRM:EExx-7F2D****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F2D 01yy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to send COMPLETE LEVEL 0 INIT message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

y = The state CNIINIT was in when the PRM was issued.

- z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has timed out while waiting for IMS to send the COMPLETE LEVEL 0 INIT message.

## 6. CORRECTIVE ACTION

CNIINIT sends the application integrity monitor (AIM) the COMPLETE LEVEL\_0 message, terminates the audit sequence, and goes back into its steady state.

**PRM:EExx-7F2E****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F2E wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Process terminated during CNI initialization kernel process (CNIINIT) level 0 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the state where. Valid values are:

01 = ms\_ident as received from the operating system is invalid.

- 02 = The process identified by ms\_ident is not a currently running CNIINIT child process.
- 03 = A level 1 is needed to restart the dead process.
- 04 = CNIINIT has discovered an invalid value for rc\_type in its process table (pointed to by z).
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = ms\_ident as received from the operating system.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has received a message indicating that a child process has terminated during a LEVEL 0 initialization. An error was detected.

## 6. CORRECTIVE ACTION

| If "w" = | Action                                                                                |
|----------|---------------------------------------------------------------------------------------|
| 01 or 02 | CNIINIT will continue with the LEVEL 0 initialization.                                |
| 03       | CNIINIT will abort the audit sequence (LEVEL 0) and start a LEVEL 1 initialization.   |
| 04       | then CNIINIT will abort CNI and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F2F****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F2F wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Process terminated during CNI initialization kernel process (CNIINIT) level 0 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the function. Valid values are:

01 = ms\_ident as received from the operating system is invalid.

- 02 = The process identified by ms\_ident is not a currently running CNIINIT child process.
- 03 = A level 1 is needed to restart the dead process.
- 04 = CNIINIT has discovered an invalid value for rc\_type in its process table (pointed to by z).
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = ms\_ident as received from the operating system.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has received a message indicating that a child process has terminated during a LEVEL 0 initialization. An error was detected.

## 6. CORRECTIVE ACTION

| If "w" = | Action                                                                              |
|----------|-------------------------------------------------------------------------------------|
| 01 or 02 | CNIINIT will continue with the LEVEL 0 initialization.                              |
| 03       | CNIINIT will abort the audit sequence (LEVEL 0) and start a LEVEL 1 initialization. |
| 04       | CNIINIT will abort CNI and the parent of CNIINIT will restart the CNI subsystem.    |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F38****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F38 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to finish non-critical initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the state where. Valid values are:



01 = CNIINIT received a timeout while waiting for IMS to complete a non-critical initialization.

02 = CNIINIT was unable to send a message to IMS.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Valid values are:

| If "w" = | "z" =                                                                                                                                                  |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01       | 00                                                                                                                                                     |
| 02       | The index to process imsdv.p in CNIINIT's process table. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual. |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for completion of a IMS non-critical init. A timer fired.

## 6. CORRECTIVE ACTION

| If "w" = | Action                                                                       |
|----------|------------------------------------------------------------------------------|
| 01       | CNIINIT will resend the request for an IMS non-critical init.                |
| 02       | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F39****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F39 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Child process terminated while CNI initialization kernel process (CNIINIT) was recreating another process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the state where. Valid values are:

01 = ms\_ident as received from the operating system is invalid.

02, 05 = The process identified by ms\_ident is not a currently running CNIINIT child process.

|            |                                                                                                                                                       |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 03, 07, 09 | = A dead critical process was discovered during disk independent operation (DIOP) mode.                                                               |
| 04         | = Unable to allocate a timer resource.                                                                                                                |
| 06         | = The process identified by ms_ident never reached the "RUNNING" state. Therefore, its death was premature.                                           |
| 08         | = Process will be recreated later by CNIINIT.                                                                                                         |
| 0A         | = A process died, but CNIINIT is in DIOP mode. The process will not be recreated.                                                                     |
| 0B         | = A level 1 is required to restart the dead process. level 1 cannot be started.                                                                       |
| 0C         | = Invalid rc_type in the process table.                                                                                                               |
| x          | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y          | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z          | = Index into CNIINIT's process table. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.                   |
| h          | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

A process terminated. CNIINIT was busy recreating another process. Variable *z* identifies the process. An error occurred.

## 6. CORRECTIVE ACTION

| If "w" =                  | Action                                                                                          |
|---------------------------|-------------------------------------------------------------------------------------------------|
| 01, 02, 05, 06, 08, or 0A | CNIINIT will take no action (or minimal action if required). The message is informational only. |
| 03, 04, 07, 09, 0B or 0C  | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem.                    |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F3B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F3B wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error detected while CNI initialization kernel process (CNIINIT) was processing a time out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the function. Valid values are:

01 = Received acknowledgment from process, none from process manager.

- 02 = Received acknowledgment from process manager, none from process.
- 03 = No acknowledgment received either from process manager or process.
- 04 = While in disk independent operation (DIOP), CNIINIT discovered a dead critical process.
- 05 = Unable to allocate a timer resource.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was busy recreating processes. A timeout occurred. While processing the timeout, an error was detected.

## 6. CORRECTIVE ACTION

| If "w" =     | Action                                                                       |
|--------------|------------------------------------------------------------------------------|
| 01, 02 or 03 | CNIINIT will recreate this process later. The message is informational only. |
| 04 or 05     | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F3C****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F3C wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) has received an unexpected process creation message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the function. Valid values are:

01 = CNIINIT has just discovered the system is in disk independent operation (DIOP).

- 02 = Acknowledgment received from the process manager concerning a process creation. Process manager indicates that the process was not created. Furthermore, CNIINIT may have discovered a dead critical process.
- 03 = Valid process creation acknowledgment received from the process manager. However, the process does not belong to CNIINIT. It will be killed.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = ms\_ident as received from the operating system. Usually acts as an index into CNIINIT's process tables. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was NOT expecting any process creations. An unexpected process creation message from the process manager was received. Other conditions may have been discovered during the processing of this message.

## 6. CORRECTIVE ACTION

| If "w" = | Action                                                                                                                                                                                                                                     |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01       | CNIINIT will internally declare DIOP and act according to those rules (no new process creations non-critical process permitted to terminate).                                                                                              |
| 02       | CNIINIT may abort the CNI subsystem or it may be ignored. If the abort option is selected, it is because a critical child process died. In any case, the parent of CNIINIT will restart the CNI subsystem if CNI aborts the CNI subsystem. |
| 03       | CNIINIT will attempt to remove (terminate) the process.                                                                                                                                                                                    |

In all cases, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F3E****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F3E wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) has received an unexpected process creation message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the function. Valid values are:

01 = CNIINIT has just discovered the system is in disk independent operation (DIOP).



|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 | = Acknowledgment received from the process manager concerning a process creation. Process manager indicates that the process was not created.         |
| 03 | = Valid process creation acknowledgment received from the process manager. However, CNIINIT does not want the process. It will be killed.             |
| x  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z  | = ms_ident as received from the operating system.                                                                                                     |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT was NOT expecting any process creations. An unexpected process creation message from the process manager was received.

## 6. CORRECTIVE ACTION

None. CNIINIT kills off the unnecessary process.

**PRM:EExx-7F3F****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F3F wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Internal change made to user request for level 2 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the function. Valid values are:

01 = A Level 2 initialization request was made by the user, CNIINIT is escalating the

request to a level 3 initialization due to a previous incomplete level 3 or 4 initialization.

02 = The user requested a level 2 initialization in MINMODE. MINMODE is legal only as part of a level 4 initialization. CNIINIT drops the MINMODE request and calls a normal level 2 initialization.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Insignificant.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT is processing a user request message for a level 2 initialization.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-7F48****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F48 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received creation acknowledgment from wrong child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

- z = Index into CNIINIT's process table (received from the child process).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for a newly created child to acknowledge that it had been created. However, the wrong process sent the acknowledgment.

## 6. CORRECTIVE ACTION

Possible CNIINIT error. However, CNIINIT ignores this acknowledgment and continues to wait for the correct process to acknowledge.

**PRM:EExx-7F49****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F49 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received an unexpected event while recreating processes.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the function. Valid values are:

01 = Acknowledgment received from the process manager for a child process.

However, CNIINIT was not expecting an acknowledgment for that process.

02 = CNIINIT has discovered that the system is in disk independent operation (DIOP).

03 = While in DIOP, CNIINIT discovered a dead critical process.

04 = Process manager returned FAIL on a creation attempt. Will retry later.

05 = Unable to allocate a timer resource.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was attempting to recreate a process. An unexpected event occurred.

## 6. CORRECTIVE ACTION

| If "w" = | Action                                                                                                                                        |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 01       | CNIINIT will take no action. The message is informational only.                                                                               |
| 02       | CNIINIT will internally declare DIOP and act according to those rules (no new process creations non-critical process permitted to terminate). |
| 03 or 05 | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem.                                                                  |
| 04       | CNIINIT will attempt to recreate the process later.                                                                                           |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F4D****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F4D wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) child process terminated.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the function. Valid values are:

01 = ms\_ident as received from the operating system is invalid.



|        |                                                                                                                                                       |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02     | = The process identified by ms_ident is not a currently running CNIINIT child process.                                                                |
| 03, 06 | = A dead critical process was discovered during disk independent operation (DIOP) mode.                                                               |
| 04, 07 | = CNIINIT has discovered that the system is in DIOP.                                                                                                  |
| 05     | = Unable to allocate a timer resource.                                                                                                                |
| 08     | = A process terminated.                                                                                                                               |
| 09     | = Invalid rc_type in the process table. Internal CNIINIT data error.                                                                                  |
| x      | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y      | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z      | = Index into CNIINIT's process table (also ms_ident). Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.   |
| h      | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT was in state 50 (world is fine state) and has received a message indicating that a child process has terminated.

## 6. CORRECTIVE ACTION

| If "w" =         | Action                                                                                                                                        |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 01, 02           | CNIINIT will take no action. The message is informational only.                                                                               |
| 03, 05, 06 or 09 | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem.                                                                  |
| 04 or 07         | CNIINIT will internally declare DIOP and act according to those rules (no new process creations non-critical process permitted to terminate). |
| 08               | CNIINIT will start a Level 1 initialization so the process can be recreated.                                                                  |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F50****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F50 01yy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) cannot send signaling link monitor kernel (SLMK) "LEVEL 1A COMPLETE" message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

y = The state CNIINIT was in when the PRM was issued.

- z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received a message from interprocessor message switch (IMS) that it has completed a LEVEL 1A initialization. The attempt to send the "LEVEL 1A COMPLETE" event to SLMK has failed; sendevent() returned FAIL.

## 6. CORRECTIVE ACTION

CNIINIT ignores this failure.

**PRM:EExx-7F55****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F55 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) child process terminated during level 1B initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = The error within the function. Valid values are:

01 = ms\_ident as received from the operating system is invalid.

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 | = The process identified by ms_ident is not a currently running CNIINIT child process, just a zombie dying off.                                       |
| 03 | = The process identified by ms_ident never reached the "RUNNING" state. Therefore, its death was premature.                                           |
| 04 | = A process died. It will be recreated later.                                                                                                         |
| 05 | = A process terminated. A level 1 will be started so the process can be recreated.                                                                    |
| 06 | = The process table entry for the process identified by ms_ident has an invalid rc_type.                                                              |
| x  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z  | = ms_ident as received from the operating system, serves as an index into CNIINIT's process table.                                                    |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT has received a message indicating that a child process has terminated while a LEVEL 1B initialization was in progress.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-7F61****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F61 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) child process terminated while in minimum mode (MINMODE).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = The error within the state where. Valid values are:

01 = During MINMODE operation CNIINIT received a message that a child process

has died, but the index value into the process table was invalid, or was other than imsdrv.p. The interprocessor message switch (IMS) is the only process created during MINMODE.

02 = CNIINIT has received a message that the imsdrv.p process has died during MINMODE.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = ms\_ident as received from the operating system, used as an index into CNIINIT's process table. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received a message indicating that a process terminated while CNIINIT was in MINMODE.

## 6. CORRECTIVE ACTION

| If "w" = | Action                                                                       |
|----------|------------------------------------------------------------------------------|
| 01       | CNIINIT will take no action. The message is informational only.              |
| 02       | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F82****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F82 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) child process terminated while in initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = ms\_ident as received from real time reliable operating system (RTR) is invalid.



02 = The process identified by ms\_ident never reached the "RUNNING" state. Therefore, its death was premature.

03, 04 = A child process terminated during the boot portion of an initialization.

05 = Invalid rc\_type in the process table.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has received a message from the process manager that a child process has terminated. A boot initialization was in progress.

## 6. CORRECTIVE ACTION

| If "w" =     | Action                                                                       |
|--------------|------------------------------------------------------------------------------|
| 01, 02       | CNIINIT will take no action. The message is informational only.              |
| 03, 04 or 05 | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F83****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F83 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received operating system trap (OST) from wrong child during initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | = The OST index is out of range.                                                                                                                      |
| 02 | = This process is not a CRITICAL process.                                                                                                             |
| 03 | = The process table state flag for this process is not in the "PENDING" state so CNIINIT cannot accept this OST.                                      |
| 04 | = This process already trapped in with an OST.                                                                                                        |
| x  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z  | = The OST index as received from the process.                                                                                                         |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

During a critical LEVEL 3 or LEVEL 4 boot, a child process that was just created has trapped in to CNIINIT with an OST.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-7F84****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F84 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received operating system trap (OST) from wrong child during initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | = The OST index is out of range.                                                                                                                      |
| 02 | = This process is not a NON-CRITICAL process.                                                                                                         |
| 03 | = The process table state flag for this process is not in the "PENDING" state so CNIINIT cannot accept this OST.                                      |
| 04 | = This process already trapped in with an OST.                                                                                                        |
| x  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z  | = The OST index as received from the process.                                                                                                         |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

During a non-critical LEVEL 3 or LEVEL 4 boot, a child process that was just created has trapped in to CNIINIT with an OST.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-7F85****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F85 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received operating system trap (OST) from wrong child during initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | = The OST index is out of range.                                                                                                                      |
| 02 | = The rc_type of this process is incorrect.                                                                                                           |
| 03 | = The process table state flag for this process is not in the "PENDING" state so CNIINIT cannot accept this OST.                                      |
| 04 | = This process already trapped in with an OST.                                                                                                        |
| x  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z  | = The OST index as received from the process.                                                                                                         |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

During a LEVEL 1 initialization, a child process that was just created has trapped in to CNIINIT with an OST.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-7F87****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F87 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to finish "NON-CRITICAL" minimum mode (MINMODE) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:



01, 03 = Unable to allocate a timer resource.

02 = A timeout was received while waiting for IMS to complete a non-critical initialization.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Not used.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

During a LEVEL 4 MINMODE initialization CNIINIT timed out waiting for IMS to complete its "NON-CRITICAL" INITIALIZATION. In some cases, a further error was detected.

## 6. CORRECTIVE ACTION

| If "w" = | Action                                                                       |
|----------|------------------------------------------------------------------------------|
| 01 or 03 | CNIINIT will abort and the parent of CNIINIT will restart the CNI subsystem. |
| 02       | CNIINIT will set a new timer and continue to wait for IMS completion.        |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F8A****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F8A 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to finish "NON-CRITICAL" initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Not used.                                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

During a LEVEL 3 or LEVEL 4 non-critical initialization CNIINIT timed out waiting for IMS to complete its NON-CRITICAL INITIALIZATION.

## 6. CORRECTIVE ACTION

CNIINIT will attempt to resend another message to IMS to ask for completion of the NON-CRITICAL INITIALIZATION. If a further problem develops such that CNIINIT is unable to send a message, then CNIINIT will abort the CNI subsystem and the parent of CNIINIT will restart the CNI subsystem.

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7F97****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F97 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered using bootchild() to create CNI initialization kernel process (CNIINIT) child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The pointer (index) into the process table is invalid.

02 = The attempt to send the message to the process manager (via the creatp() function) failed.

03 = Out of timer resources.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = The index into the process table of the child that is to be created.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The function bootchild() was called to request the creation of a child process.

## 6. CORRECTIVE ACTION

| If "w" = | Action                                                                                                                  |
|----------|-------------------------------------------------------------------------------------------------------------------------|
| 01       | CNIINIT data is corrupt. CNIINIT should ABORT.                                                                          |
| 02       | Administrative module (AM) congestion is the likely problem. This should be self correcting. CNIINIT may call an abort. |
| 03       | CNIINIT may fail or abort the initialization.                                                                           |

**PRM:EExx-7F98****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F98 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered when sending START\_PROC to CNI initialization kernel process (CNIINIT) child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The process table entry for this child is not marked to receive the START\_PROC

event.

02 = The attempt to send an event to a kernel child process failed because of a FAIL return from the operating system function sendevent().

03 = CNIINIT could not allocate a timer resource.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = The index into the process table, points to the child that is to be sent START\_PROC.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The function sendstart() was called to send the START\_PROC event to a child.

## 6. CORRECTIVE ACTION

CNIINIT will, in most cases, ABORT.

**PRM:EExx-7F99****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F99 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered using sendstop() to stop CNI initialization kernel process (CNIINIT) child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The process table entry for this child is not marked to receive the STOP\_PROC



event.

02 = The attempt to send an event to a kernel child process failed because of a FAIL return from the operating system function sendevent().

03 = CNIINIT could not allocate a timer resource.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = The index into the process table points to the child that is to be sent STOP\_PROC.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The function sendstop() was called to send the STOP\_PROC event to a child.

## 6. CORRECTIVE ACTION

CNIINIT, in most cases, will ABORT.

**PRM:EExx-7F9A****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F9A xxyy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) could not send "PT\_USER" message to the application integrity monitor (AIM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = The error within the function. Valid values are:

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | = The function was called with the status "CI_REQUEST".                                                                                               |
| 02 | = CNIINIT was unable to allocate a timer resource to guard the sequence.                                                                              |
| 03 | = CNIINIT was unable to allocate an operating system message buffer.                                                                                  |
| 04 | = The operating system function kportid() returned "NULLPRC" when attempting to get the pid of the CNI AIM.                                           |
| 05 | = The CNIINIT function sendmsg() returned FAIL when called to send the operating system message to the CNI AIM.                                       |
| 06 | = The operating system function kportid() returned "BADPORT" when attempting to get the pid of the CNI AIM.                                           |
| y  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| z  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The function s\_usrmsg() was called to send a message to the AIM using "PT\_USER". An error occurred.

## 6. CORRECTIVE ACTION

None. This is self-correcting. Note that CNIINIT may choose to abort.

**PRM:EExx-7F9B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F9B xxyy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) could not send "PT\_USER" message to the interprocessor message switch (IMS).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = The error within the function. Valid values are:

|    |                                                                                                                                                                            |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | = Internal error, CNIINIT was in minimum mode (MINMODE) and attempted to request an IMS level of initialization other than level 4 (4 is the only legal value in MINMODE). |
| 02 | = PID in the process table is zero (or kportid() returned NULLPRC).                                                                                                        |
| 03 | = Unable to allocate a CNIINIT timer.                                                                                                                                      |
| 04 | = Internal error, the function was called with a status of IT_COMPLETE.                                                                                                    |
| 05 | = Unable to allocate an operating system message buffer.                                                                                                                   |
| 06 | = The CNIINIT function sendmsg() returned FAIL when called to send the message to IMS.                                                                                     |
| 07 | = The operating system function kportid() returned BADPORT when called to get the process identification (PID) of the CNI application integrity monitor (AIM) process.     |
| y  | = The state CNIINIT was in when the PRM was issued.                                                                                                                        |
| z  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                                       |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.                      |

## 5. EXPLANATION

The function s\_imsmsg() was called to send IMS a message. An error occurred.

## 6. CORRECTIVE ACTION

Self-correcting. Unable to send IMS a message. CNIINIT may ABORT.

**PRM:EExx-7F9C****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F9C 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Parameter passed to CNI initialization kernel process (CNIINIT) u\_cvtolg() was out of range.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

`z` = This is the value of the integer passed to this function.

`h` = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The function `u_cvtolg()` is called to convert an integer (representing a level of initialization) to a "logical" level of initialization. The parameter (refer to variable `z`) was out of range.

## 6. CORRECTIVE ACTION

Internal error. CNIINIT will probably ABORT.

**PRM:EExx-7F9D****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F9D 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Parameter passed to CNI initialization kernel process (CNIINIT) "i\_cvtolg()" was out of range.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).



`z` = This is the value of the integer passed to this function.

`h` = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The function `i_cvtolg()` is called to convert an integer (representing a level of initialization) to a "logical" level of initialization. The parameter (refer to variable `z`) was out of range.

## 6. CORRECTIVE ACTION

Internal error. CNIINIT will probably ABORT.

**PRM:EExx-7F9E****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7F9E wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Event error detected by CNI initialization kernel process (CNIINIT) kevent().

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.  
Application software generated this PRM.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01, 0C = CNIINIT received an invalid value for the level (init\_lv) in an application integrity monitor (AIM) REQUEST message.

- 02 = CNIINIT received an invalid status (CI\_COMPLETE) in a AIM message.
- 03 = CNIINIT received an invalid value for the level (init\_lvl) in a AIM BEGIN message.
- 04 = CNIINIT received an invalid value (IT\_REQ) for the status in an interprocessor message switch (IMS) message.
- 05 = CNIINIT received an invalid value for the level in an IMS COMPLETE message.
- 06 = CNIINIT received an invalid value for the level in an IMS BEGIN message.
- 07 = CNIINIT received the operating system E\_ABORT event (usually the method the AIM employs to ABORT the CNI subsystem).
- 08 = CNIINIT received the operating system E\_USR5 event. This event is normally used by test processes only and should not appear in the field.
- 09 = CNIINIT has escalated its patch count to the same level as the system patch count (expected during field update).
- 0A = CNIINIT has received a duplicate E\_INIT event.
- 0B = For the message type MSACK, the field ms\_otype is unknown by CNIINIT.
- 0D = An invalid init\_lvl value was received in a AIM BEGIN message.
- 0E = An invalid init\_st value was received in a AIM message.
- 0F = An invalid init\_st value was received in a IMS message.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Valid values are:

| If "w" =                 | "z" =                                                     |
|--------------------------|-----------------------------------------------------------|
| 01, 03, 05, 06, 0C or 0D | The variable init_lvl (level) as received in the message. |
| 04, 0E, or 0F            | The variable init_st (status) as received in the message. |
| 0B                       | The value 'otype' from the operating system message.      |
| 02, 07, 08, 09, or 0A    | Meaningless and should be ignored.                        |

- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is issued from the function kevent(). kevent() initially handles received events and messages for CNIINIT. This PRM can be output when unusual conditions are detected or when information is needed.

## 6. CORRECTIVE ACTION

| If "w" = | Action: |
|----------|---------|
|----------|---------|

|                                                        |                                                                                                                                                                                                        |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01, 02, 03, 04, 05,<br>06, 0A, 0B, 0C, 0D,<br>0E or 0F | CNIINIT will take no action. The message is informational only. However, caution is advised. Make sure that the system is either stable or making progress in an initialization if one is in progress. |
| 07 or 08                                               | CNIINIT will abort (as requested) and the parent of CNIINIT will restart the CNI subsystem.                                                                                                            |
| 09                                                     | Consider CNIINIT "in a clear state" relative to any software update activity taking place.                                                                                                             |

**PRM:EExx-7FA1****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FA1 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Parameter passed to CNI initialization kernel process (CNIINIT) measb() was out of range.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Contains the value of level.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The measb() function begins the duration timing of initialization sequences. It expects to receive a parameter indicating the level of initialization to time. The measb() function has received an invalid level parameter. The level must be greater than or equal to 0 and less than or equal to 4.

## 6. CORRECTIVE ACTION

CNIINIT is unable to measure the initialization sequence in progress.

**PRM:EExx-7FA2****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FA2 xxyy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered using setimr() to allocate and guard external events for CNI initialization kernel process (CNIINIT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = The error within the function. Valid values are:

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | = The setimr function has been called with an invalid msec parameter, that is, it is less than 0.                                                     |
| 02 | = The setimr function has been called with an invalid event parameter, that is, it is less than 0.                                                    |
| 03 | = The setimr function is unable to allocate the timer. All the timers have been allocated.                                                            |
| y  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| z  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The setimr function, which is a function used by CNIINIT to allocate and guard external events, detected an error.

## 6. CORRECTIVE ACTION

Since setimr is a function used by other functions (service), the result of running out of timers cannot be precisely predicted. However, in most cases, CNIINIT causes a CNI ABORT.



**PRM:EExx-7FA4****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FA4 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered using update1() to update child process for CNI initialization kernel process (CNIINIT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT process.

w = The error within the function. Valid values are:

01 = The function update1() was called to update CNIINIT's process table following a

child process' change in state. According to information already set in the process table, this event has already occurred.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = The child process' track\_flags.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

Update1() updates the child process table following a change in status of a child process. An error occurred.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-7FA7****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FA7 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered using update3() for CNI initialization kernel process (CNIINIT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The function "s\_usrmsg()" returned FAIL.

02 = The level 0 initialization completed with errors.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Valid values are:

| If "w" = | "z" =               |
|----------|---------------------|
| 01       | Not used.           |
| 02       | Level 0 error code. |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The update3() function is called to wrap up business at the end of a level 0 initialization. An error was detected.

## 6. CORRECTIVE ACTION

None. This error is self-correcting.

**PRM:EExx-7FA8****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FA8 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received operating system trap (OST) from wrong child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The clfail() OST has been received. Generally, only the signal link monitor kernel

process (SLMK) sends this OST.

02 = The clfp() OST has been received. Generally, only the SLMK process sends this OST.

03 = CNIINIT was servicing the OST cltermcls(). The operating system OST termclass() returned "FAIL".

04 = CNIINIT was servicing the OST cltermcls(). The class specified by the caller is illegal, not class CMDPCLSA.

05 = CNIINIT was called with an undefined "OST code".

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Valid values are:

| If "w" =  | "z" =                                                                                                                            |
|-----------|----------------------------------------------------------------------------------------------------------------------------------|
| 01, or 02 | Contains the error code from SLMK. Refer to Table 3 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual. |
| 03, or 04 | Meaningless, ignore.                                                                                                             |
| 05        | Contains the value of the undefined "OST code".                                                                                  |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

Some communication from CNIINIT's child processes has been accomplished via OSTs. Parameter check of the "received" OST has revealed an error.

## 6. CORRECTIVE ACTION

| If "w" =     | Action:                                                              |
|--------------|----------------------------------------------------------------------|
| 01 or 02     | CNIINIT may take a full process initialization (FPI).                |
| 03, 04 or 05 | CNIINIT will ignore this OST, and the message is informational only. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7FAA****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FAA wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered using proctaud() for CNI initialization kernel process (CNIINIT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = The error within the function. Valid values are:

01 = This process has the RECSTRT flag set indicating it is to receive the

START\_PROC signal but it is not in the next\_srt chain.

- 02 = This process has the RECSTRT flag set indicating it is to receive the STOP\_PROC signal but it is not in the next\_srt chain.
- 03 = This process has the RECSTRT flag clear indicating it is not to receive the START\_PROC signal but it is in the next\_srt chain.
- 04 = This process has the RECSTRT flag clear indicating it is not to receive the START\_PROC signal but it is in the next\_stp chain.
- 05 = This process has the CRITPROC flag set indicating it is to be created as a critical process but it is not in the cr\_crit (create crit) chain.
- 06 = This process has the CRITPROC flag set indicating it is to be created as a critical process but it is in the cr\_ncrit (create non-crit) chain.
- 07 = This process has a restart type code of 2 and it does not have the RECSTRT flag set.
- 08 = This process has the restart type of 2 and does not have the CRITPROC flag set.
- 09 = This process does not have the CRITPROC flag set, and it is not in the cr\_ncrit (create non-crit) chain.
- 0A = This process does not have the CRITPROC flag set, and it is in the cr\_crit (create crit) chain.
- 0B = This process does not have a timer "tout1" value greater than 0.
- 0C = The imsdrv.p process does not have greater than 0 values for "tout2" and "tout3".
- 0D = The create crit (cr\_crit) chain does not end with a 0.
- 0E = The create non-crit (cr\_ncrit) chain does not end with a 0.
- 0F = The START\_PROC chain does not end with 0.
- 10 = The STOP\_PROC chain does not end with a 0.
- 11 = There is no index found for 1 or more of the following processes: signal link monitor kernel process (SLMK), CNI timing operating system process (SLMTIME) or imsdrv.p.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Points the entry in the process table that is invalid.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION



The function proctabaud() is called when CNIINIT is initialized to run a thorough check on the process table to make sure it is sane. The errors detail any problems found with the table.

## **6. CORRECTIVE ACTION**

For all cases, CNIINIT ABORTS. Process table is invalid and must be corrected. CNIINIT must be rebuilt.

**PRM:EExx-7FAB****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FAB 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Parameter passed to CNI initialization kernel process (CNIINIT) pr\_rd\_ck() was out of range.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

- z = This is the value of the type of argument `pr_rd_ck()` is called with.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The function `pr_rd_ck(type)` was called to check if all processes are in the ready or running state and the type argument was not 0 or 1.

## 6. CORRECTIVE ACTION

CNIINIT may abort. Chances are good that CNIINIT data is corrupt.

**PRM:EExx-7FAD****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FAD 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Parameter passed to CNI initialization kernel process (CNIINIT) scanp\_tab() was out of range.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

- z = This is the value of the argument ("type") scanp\_tab() is called with.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The function scanp\_tab (type) was called with an argument type not 0 or 1.

## 6. CORRECTIVE ACTION

Internal CNIINIT error. CNIINIT will ABORT in most cases.

**PRM:EExx-7FAE****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FAE xxyy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered using killproc() to kill a CNI initialization kernel process (CNIINIT) child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = Error number within the function. Valid values are:

01 = CNIINIT was unable to allocate an operating system message buffer.

02 = CNIINIT was unable to queue a operating system message buffer to the system scheduler.

y = The state CNIINIT was in when the PRM was issued.

z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

Function killproc() was called to kill a child process and returned fail.

## 6. CORRECTIVE ACTION

CNIINIT is unable to kill off a non-critical child process. The result will probably be a zombie CNIINIT child process remaining in the system. It may or may not cause a system degradation. At any rate, issue the "ps" operating system command to find out what processes are running and call for office support.

**PRM:EExx-7FAF****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FAF wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Checking CNI initialization kernel process (CNIINIT) clear state.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = The error within the function. Valid values are:

01 = Unable to allocate an operating system message buffer to send any kind of



message.

02 = CNIINIT is in the clear and has just updated its patch count.

03 = CNIINIT is NOT in the clear, will try to update later.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Always 00.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is issued from function `initfu_audit()`. This function handles the field update query message. A series of tests will be made to determine if CNIINIT is in a "clear" state. If CNIINIT is not clear, then an attempt to clear will be made.

If CNIINIT is in its "clear" state, CNIINIT's internal patch count will be updated to be coincident with the system patch count and a message (FU\_AUDYES) will be returned. If CNIINIT is not clear, then CNIINIT's patch count will not be updated and a message (FU\_AUDNO) will be returned.

**NOTE:** "FY\_AUDYES" and "FU\_AUDNO" are messages that are internal to the CNI software. These messages will not appear on the Master Control Center (MCC) or on printout from the receive-only printer (ROP).

After CNIINIT sends "FU\_AUDYES", CNIINIT will begin using the new functions and field update will reclaim patch spaces and decision functions.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                   |
|----------|-------------------------------------------|
| 01 or 03 | CNIINIT will try again later.             |
| 03       | CNIINIT has just updated its patch count. |

**PRM:EExx-7FDD-A****Software Release:** 5E10 - 5E11**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FDD wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) child process terminated.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Issued from the CNIINIT function preterm(): a process died, but the ms\_ident does not match any processes owned by CNIINIT.

02 = A critical process died unexpectedly.

- 03 = Issued from the CNIINIT function critterm(): a process died, but the pid of the terminating process did not match any pid that CNIINIT currently knew about.
- 04 = A message was received from the operating system indicating a non-critical process terminated.
- 05 = A message was received from the operating system indicating a non-critical process terminated. The pid of the terminating process and its index matched the process that CNIINIT was waiting for an acknowledgment from [that is, clstop() or clstart()].
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received a message from the operating system indicating that a process had died.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                         |
|----------|-----------------------------------------------------------------|
| 01 or 03 | CNIINIT will take no action. The message is informational only. |
| 02       | CNIINIT will begin a FPI initialization.                        |
| 04 or 05 | CNIINIT will recreate the process later.                        |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7FDD-B****Software Release:** 5E12 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FDD wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) child process terminated.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Issued from the CNIINIT function preterm(): a process died, but the ms\_ident does not match any processes owned by CNIINIT.

03 = Issued from the CNIINIT function critterm(): a process died, but the pid of the

terminating process did not match any pid that CNIINIT currently knew about.

- 04 = A message was received from the operating system indicating a non-critical process terminated.
- 05 = A message was received from the operating system indicating a non-critical process terminated. The pid of the terminating process and its index matched the process that CNIINIT was waiting for an acknowledgment from [that is, clstop() or clstart()].
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received a message from the operating system indicating that a process had died.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                         |
|----------|-----------------------------------------------------------------|
| 01 or 03 | CNIINIT will take no action. The message is informational only. |
| 04 or 05 | CNIINIT will recreate the process later.                        |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-7FFF****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 7FFF wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error condition during an administrative module (AM) offline boot (OFLBOOT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = CNIINIT received a request for an OFLBOOT from a process other than the application integrity monitor (AIM) process.

- 02 = CNIINIT was unable to "read" lowcore during execution of an OFLBOOT request.
- 03 = CNIINIT was unable to "write" lowcore during execution of an OFLBOOT request.
- 04 = CNIINIT was in the middle of processing some OFLBOOT activity. CNIINIT was expecting a message from interface module system (IMS) driver (IMSDRV), but received a message from some other process.
- 05 = CNIINIT was in the middle of processing some OFLBOOT activity. CNIINIT was expecting a message from signaling link maintenance kernel (SLMK), but received a message from some other process.
- 06 = CNIINIT was in the middle of processing some OFLBOOT activity. CNIINIT was expecting a message from SLMK or IMSDRV, but a guard timer fired instead.
- 07 = CNIINIT received a request for an OFLBOOT activity while it was processing some other CNIINIT job. CNIINIT cannot accept the OFLBOOT request until the other job is complete.
- 08 = CNIINIT was attempting to allocate a timer to guard a message exchange with either SLMK or IMSDRV. No timers were available.
- 09 = CNIINIT was attempting to allocate an operating system message buffer to send a message to either AIM, SLMK or IMSDRV. No message buffers were available.
- 0A = CNIINIT was attempting to get the process ID (PID) for AIM, SLMK or IMSDRV from the process's port. A failure was returned by the operating system.
- 0B = CNIINIT attempted to send a message to AIM, SLMK or IMSDRV. A failure was returned by the CNIINIT function "sendmsg".
- 0C = CNIINIT received a message that contained an illegal value for "activity".
- x = The CNIINIT state when the PRM was issued.
- y = The CNIINIT state just prior to the state in which the PRM was issued (variable old\_state).
- z = Valid only when w = 0C, z is the value of the "activity" requested in the message received by CNIINIT.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated when CNIINIT is involved in processing OFLBOOT. An error condition was detected during that processing. Refer to variable w for a description of the specific error. Note that the word "activity" refers to OFLBOOT steps such as duplex, split, precheck, and so forth.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                                                                                                            |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01       | Take no immediate action. The message may have been "left over" from a previous OFLBOOT execution that failed. If the condition persists, call your support organization for help. |
|          |                                                                                                                                                                                    |

|          |                                                                                                                                                                                                                                   |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 or 03 | There is a fundamental operating system error. Retry the OFLBOOT command. If you get the same failure again, call your support organization for help.                                                                             |
| 04 or 05 | A sequencing error occurred during the execution of OFLBOOT. Wait a few minutes and retry the OFLBOOT command. If you get the same failure again, call your support organization for help.                                        |
| 06       | IMSDRV or SLMK took longer than the prescribed time to perform the OFLBOOT activity. Wait a few minutes and retry the OFLBOOT command. If you get the same failure again, call your support organization for help.                |
| 07       | Wait until CNIINIT completes the job it has in progress and retry the OFLBOOT command.                                                                                                                                            |
| 08       | The OFLBOOT activity that was in progress will fail. Retry the command. If it fails once again, force CNI into a full process initialization (FPI) initialization to clear up old timers. Then retry the OFLBOOT command.         |
| 09       | The OFLBOOT activity that was in progress will fail. Retry the command. If it fails once again, call your support organization for help to restore message buffers to the system.                                                 |
| 0A       | The OFLBOOT activity that was in progress will fail. Retry the command. If it fails once again, force CNI into a FPI initialization. Then retry the OFLBOOT command.                                                              |
| 0B       | The OFLBOOT activity that was in progress will fail. The operating system was unable to send the message to the process requested by CNIINIT. Retry the command. If it fails once again, call your support organization for help. |
| 0C       | The OFLBOOT activity that was in progress will fail. Retry the command again.                                                                                                                                                     |



**13. EExx-8000 — EExx-C2FF**

**PRM:EExx-8F01****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F01 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on the operating system to respond to an operating system feature "SUREKILL" message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | = A timeout occurred while waiting for an acknowledgment to a "surekill by class" request of the operating system.                                    |
| x  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z  | = Not used.                                                                                                                                           |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT has issued a "surekill" request by class. An acknowledgment from the operating system was expected. However, a guard timer fired instead.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8F02****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F02 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Operating system feature "SUREKILL" response to CNI initialization kernel process (CNIINIT) contained an error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = ms\_stat contained TM\_BADTYPE - indicating that t\_termttype was invalid.

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 | = ms_stat contained TM_FAIL - indicates that the operating system took an error during the processing of the "surekill" and could not complete it.    |
| 03 | = ms_stat contained an unknown value (default case).                                                                                                  |
| x  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z  | = Not used.                                                                                                                                           |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT received an acknowledgment from the operating system following a "surekill by class" request (ms\_stat field of the message). The message indicated that an error occurred.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8F04****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F04 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered while CNI initialization kernel process (CNIINIT) was "stopping" child processes.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variablez d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The operating system operating system trap (OST) suspuid() returned FAIL

(CNIINIT was attempting to suspend a non-critical process).

02 = A boot initialization is in progress and a critical process was discovered alive. This is an error since all critical processes should have been killed during the previous abort sequence. Critical processes are only permitted to "live" across full process initializations (FPIs).

03 = The function sendchild() returned "FAIL" when it was called to send the "STOP\_PROC" event to a critical child process.

04 = A boot initialization is in progress and the imsdrv.p process was discovered "alive". This is an error since all critical processes should have been killed during the previous abort sequence. Critical processes are only permitted to "live" across FPI initializations.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Valid values are:

| If "w" =     | "z" =                                                                                                                                                                 |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01, 02 or 03 | An index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual. |
| 04           | Not used.                                                                                                                                                             |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was "stopping" and "suspending" its child processes at the beginning of a FPI or a BOOT initialization. An error occurred.

## 6. CORRECTIVE ACTION

| If "w" =     | Action:                                                                                        |
|--------------|------------------------------------------------------------------------------------------------|
| 01           | CNIINIT will take no action. The message is informational only.                                |
| 02, 03 or 04 | CNIINIT will FAIL the initialization and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F05****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F05 wwxx hhzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received operating system trap (OST) from wrong child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = CNIINIT received the clstop() OST from an unexpected process.



- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process (the process that used the clstop() OST).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for one of its child processes to acknowledge a "STOP PROC" with the clstop() OST. The wrong process used the OST.

## 6. CORRECTIVE ACTION

None. This is self-correcting. CNIINIT will continue to wait for the correct process to use the OST (a guard timer has been set).

**PRM:EExx-8F06****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F06 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on child process response to "START\_PROC message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = A timeout occurred while waiting on an acknowledgment from a critical child

process to "STOP PROC".

02 = A timeout occurred while waiting on an acknowledgment from a NON-critical child process to "STOP PROC".

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for an acknowledgment from a child process following a "STOP PROC". A guard timer fired instead.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                        |
|----------|------------------------------------------------------------------------------------------------|
| 01       | CNIINIT will FAIL the initialization and the parent of CNIINIT will restart the CNI subsystem. |
| 02       | CNIINIT will take no action. The message is informational only.                                |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F07****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F07 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) could not communicate with application integrity monitor (AIM) process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

02 = The operating system function returned "NULLPRC" when CNIINIT was

attempting to get the pid of the CNI AIM process (AIM is not attached to its port, PT\_USER).

03 = CNIINIT was unable to allocate a timer.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Not used.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was attempting to communicate with the CNI AIM process to request the level of initialization required. An error was detected.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                        |
|----------|------------------------------------------------------------------------------------------------|
| 02       | CNIINIT will attempt to request the level of init again in 30 seconds.                         |
| 03       | CNIINIT will abort the CNI subsystem and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F08****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F08 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error in message from application integrity monitor (AIM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The CNI AIM requested a "level 2, minimum mode (MINMODE)" initialization.

MINMODE is only permitted at level 4.

- 02 = The CNI did not complete a previous level 3 or 4 initialization.
  - 03 = The AIM software has requested a level 3 full process initialization (FPI). FPI is valid only as a level 2 initialization.
  - 04 = The CNI AIM requested a "level 3, MINMODE" initialization. MINMODE is only permitted at level 4.
  - 05 = The AIM software has requested a level 4 FPI initialization. FPI is valid only as a level 2 initialization.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Not used.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has received a message from the CNI AIM software indicating the level of initialization required. A problem was detected.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                        |
|----------|------------------------------------------------------------------------------------------------|
| 01 or 04 | CNIINIT will take no action. The message is informational only.                                |
| 02       | CNIINIT will escalate the level 2 initialization to a level 3 initialization.                  |
| 03 or 05 | CNIINIT will FAIL the initialization and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F0A****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F0A wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error in acknowledgment message from process manager.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The ms\_ident in the acknowledgment message did not match any CNIINIT child



process (out of range).

02 = The acknowledgment message received applied to a non-critical process.

03 = An acknowledgment message was received for a process that was not in the "PENDING" state.

04 = The process manager returned an error on a critical process creation.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Valid values are:

| If "w" =      | "z" =                                                                                                                                                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01, 02, or 03 | An index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual. |
| 04            | ms_stat field received from the process manager. Refer to Table 4 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.                        |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received an acknowledgment from the operating system process manager following a pcreate request of a critical CNIINIT child process. A problem was detected.

## 6. CORRECTIVE ACTION

| If "w" =      | Action:                                                                                        |
|---------------|------------------------------------------------------------------------------------------------|
| 01, 02, or 03 | CNIINIT will take no action. The message is informational only.                                |
| 04            | CNIINIT will FAIL the initialization and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F0B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F0B wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received operating system trap (OST) from wrong child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The variable ost\_ident was out of range - it did not match any CNIINIT processes.

The OST will be ignored.

02 = The OST was received from a non-critical process. The OST will be ignored.

03 = The variable `ost_ident` did not point to a process that was in the "PENDING" state. The OST will be ignored.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable `old_state`).

z = Index into CNIINIT's process table that points to the child process (the variable `ost_ident`).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received a `clalive()` OST from a child process following a `pcreate` or a full processor initialization (FPI) request. A problem was detected.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8F0D****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F0D wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on process manager during full process initialization (FPI).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

- 01 = The variable trid was out of range and did not point to any CNIINIT child process.
- 02 = The child acknowledged CNIINIT of its creation, then quietly died. The operating system did not notify CNIINIT of the creation or the death of the child process.
- 03 = The child process did not acknowledge creation.
- 04 = imsdv.p (CNIINIT child) did not acknowledge creation. Also, it is not attached to its port.
- 05 = imsdv.p did not acknowledge creation. The "acknowledgment message" does not show up in the interprocessor message switch (IMS) shared library. It is attached to its port.
- 06 = The timeout involved IMS. However, a copy of the IMS message was recovered from the IMS shared library.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process (in this case - the variable trid). Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for a response from the process manager or the child process following an FPI or pcreate request of a critical process. A guard timer fired.

## 6. CORRECTIVE ACTION

| If "w" =          | Action:                                                                                        |
|-------------------|------------------------------------------------------------------------------------------------|
| 01 or 06          | CNIINIT will take no action. The message is informational only.                                |
| 02, 03, 04, or 05 | CNIINIT will FAIL the initialization and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F12****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F12 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received operating system trap (OST) from wrong child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = CNIINIT received a clstart() OST from the "wrong" process (its index did not

match the "expected" index).

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process (contains the variable ost\_ident).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received a clstart() OST from a child process. An error was detected.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8F16****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F16 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on signaling link monitor kernel (SLMK) response.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = A guard timer fired while waiting for SLMK to send the cltraf() operating system



trap (OST).

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Contains the SLMK variable Cstate.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for the cltraf() OST from SLMK. This OST is normally received at the end of the critical initialization and indicates that traffic has been started. A timeout occurred.

## 6. CORRECTIVE ACTION

CNIINIT will continue with the initialization. However, the machine should be closely watched to determine if traffic is ever started. If no traffic is started after a reasonable period of time, the machine should be manually initialized.

**PRM:EExx-8F17****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F17 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

No timers available for CNI initialization kernel process (CNIINIT) non-critical initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Unable to allocate a CNIINIT timer.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Not used.                                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT was attempting to allocate a CNIINIT timer to guard the non-critical initialization startup. No timers were available even though CNIINIT just cleared the entire timer array.

## 6. CORRECTIVE ACTION

CNIINIT will enter the non-operational state. A full process initialization (FPI) should be manually initiated at some point in the future to clear this problem up.

**PRM:EExx-8F25****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F25 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

sendchild() returned FAIL when attempting to send "STOP\_PROC" message to CNI initialization kernel process (CNIINIT) non-critical process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

- 01 = CNIINIT's function sendchild() returned FAIL when attempting to send the "STOP PROC" event to a critical process.
- 02 = CNIINIT's function sendchild() returned FAIL when attempting to send the "STOP PROC" event to a NON-critical process.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was in the startup stage of a level 1 initialization. It was attempting to send the "STOP PROC" event to a non-critical process (refer to variable *z*). The sendchild() function that is responsible for actually sending the message returned FAIL.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                          |
|----------|--------------------------------------------------------------------------------------------------|
| 01       | CNIINIT will call a FPI initialization and the parent of CNIINIT will restart the CNI subsystem. |
| 02       | CNIINIT will take no action. The message is informational only.                                  |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F26****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F26 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received operating system trap (OST) from wrong child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The index from the process that sent the OST did not match the index that was

expected. The OST will be ignored.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process (contains the variable ost\_ident).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received the clstop() OST from a child process. An error was detected.

## 6. CORRECTIVE ACTION

None. This OST is ignored. CNIINIT will wait for the correct one.

**PRM:EExx-8F27****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F27 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on child process response to "STOP\_PROC" message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = A critical process timed out following a "STOP PROC" event from CNIINIT.

02 = A NON-critical process timed out following a "STOP PROC" event from CNIINIT.



- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was in the startup stage of a level 1 initialization. It sent a "STOP PROC" event to a non-critical child process. The clstop() operating system trap (OST) was expected in return. Instead, a timeout occurred.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                                         |
|----------|-----------------------------------------------------------------------------------------------------------------|
| 01       | CNIINIT will call a full process initialization (FPI) and the parent of CNIINIT will restart the CNI subsystem. |
| 02       | CNIINIT will take no action. The message is informational only.                                                 |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F29****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F29 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to respond to level 1B request.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

- 01 = Recovered the IMS message from the IMS shared library.
- 02 = IMS did not complete a level 1B initialization. A guard timer fired.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Not used.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was in the middle of a level 1 initialization. It was waiting for IMS to complete a level 1B initialization. A guard timer fired.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                                         |
|----------|-----------------------------------------------------------------------------------------------------------------|
| 01       | CNIINIT will take no action. The initialization will continue.                                                  |
| 02       | CNIINIT will call a full process initialization (FPI) and the parent of CNIINIT will restart the CNI subsystem. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F2B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F2B wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered by CNI initialization kernel process (CNIINIT) at end of level 1 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Unable to send a "START\_PROC" event to a critical child process.

- 02 = The function sendchild() returned "FAIL" when it was called to send the "START\_PROC" event to a NON-critical child process.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was near the end of a level 1 initialization. CNIINIT was "restarting" each CNIINIT child process. An error was detected.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                                         |
|----------|-----------------------------------------------------------------------------------------------------------------|
| 01       | CNIINIT will call a full process initialization (FPI) and the parent of CNIINIT will restart the CNI subsystem. |
| 02       | CNIINIT will take no action. The initialization will continue.                                                  |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F2C****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F2C wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received operating system trap (OST) from wrong child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The index (variable ost\_ident) of the process that used the clstart() OST did not match the index of the process that CNIINIT expected to report in.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Index into CNIINIT's process table that points to the child process (contains the variable ost_ident).                                              |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT received a clstart() OST from a child process. An error was detected.

## 6. CORRECTIVE ACTION

None. This process will be ignored and CNIINIT will wait for the correct process to use the OST.

**PRM:EExx-8F2E****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F2E wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

No timers available for CNI initialization kernel process (CNIINIT) at end of level 1 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Unable to allocate a timer to request the beginning of a non-critical init.



02 = Unable to allocate a timer to guard the completion of the interprocessor message switch (IMS) non-critical initialization.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Valid values are:

| If "w" = | "z" =                           |
|----------|---------------------------------|
| 01       | The CNIINIT variable "NCstate". |
| 02       | Not used.                       |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was at the tail end of a level 1 initialization. A problem was detected.

## 6. CORRECTIVE ACTION

CNIINIT will enter the non-operational state. A full process initialization (FPI) should be manually initiated at some point in the future to clear this problem up.

**PRM:EExx-8F34****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F34 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

sendevent() returned FAIL when attempting to send a message to signaling link monitor kernel (SLMK).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the function. Valid values are:

01 = The operating system function sendevent() returned FAIL. CNIINIT cannot inform

signal link monitor kernel process (SLMK) that interprocessor message switch (IMS) completed a 1A initialization.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Not used.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

IMS completed a 1A initialization. CNIINIT is attempting to notify SLMK of this event. SLMK will request mass state update and check ring peripheral controller (RPC) status. An error occurred.

## 6. CORRECTIVE ACTION

This is self-correcting. SLMK will eventually derive this information on its own.

**PRM:EExx-8F38****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F38 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) error detected during system-wide initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The function sendevent() returned FAIL while attempting to send the "ABORT"

event to interprocessor message switch (IMS).

02 = The operating system trap (OST) surekill() returned FAIL when attempting to kill off a CNIINIT child process during a common network interface/interprocessor message switch (CNI/IMS) abort.

03 = Unable to allocate a CNIINIT timer to guard the IMS abort sequence.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Valid values are:

| If "w" = | "z" =                                                                                                                                                                 |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 or 03 | Not used.                                                                                                                                                             |
| 02       | An index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual. |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT is in the early stages of a CNI/IMS systemwide abort. An error occurred.

## 6. CORRECTIVE ACTION

In each case of w, critical code failed. Observe the system for a short period of time. If the system does not recover traffic handling capability after that time, then consider performing a manual operating system boot initialization. This will help clear CNI/IMS child processes out of the system.

**PRM:EExx-8F3B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F3B xxyy zzFF hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) can not recover from non-critical initialization error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from CNIINIT.

x = The error within the function. Valid values are:

01 = CNIINIT has entered the non-operational state.

|    |                                                                                                      |
|----|------------------------------------------------------------------------------------------------------|
| y  | = The state CNIINIT was in when the PRM was issued.                                                  |
| z  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state). |
| FF | = Failure.                                                                                           |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 for definition of the digits.             |

## 5. EXPLANATION

During non-critical processing, CNIINIT may encounter a situation that cannot be cleared up short of a full process initialization (FPI). When this type of situation occurs, CNIINIT enters the non-operational state.

A manual FPI initialization is needed to recover CNIINIT from this state. However, it is not necessary to perform the FPI initialization immediately, rather, wait for a moment when traffic is at its lowest.

## 6. CORRECTIVE ACTION

Wait for a time period when traffic is at a low point. Then manually initiate an FPI initialization.

**PRM:EExx-8F3C****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F3C wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) cannot begin non-critical initialization at this time.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Not permitted to begin a non-critical initialization.



|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Contains the CNIINIT variable "NCstate".                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This state is entered when the "BEGIN NC" message is received. CNIINIT was unable to begin a NC initialization at this time.

## 6. CORRECTIVE ACTION

None. CNIINIT will begin the non-critical initialization later.

**PRM:EExx-8F3D****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F3D wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) cannot begin non-critical initialization at this time.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Unable to begin a non-critical initialization now.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Contains the CNIINIT variable "NCstate".                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

A timeout occurred that normally would lead to the startup of a non-critical initialization. CNIINIT cannot begin the non-critical initialization now.

## 6. CORRECTIVE ACTION

None. CNIINIT will begin the non-critical initialization later.

**PRM:EExx-8F3F****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F3F wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

No timers available for CNI initialization kernel process (CNIINIT) non-critical initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Unable to allocate a CNIINIT timer.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Contains the CNIINIT variable "NCstate".                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT is attempting to reschedule a non-critical initialization for later. CNIINIT cleared all timers and then attempted to allocate a new one.

No timers were available.

## 6. CORRECTIVE ACTION

CNIINIT will enter the non-operational state. A full process initialization (FPI) should be manually initiated at some point in the future to clear this problem up.

**PRM:EExx-8F40****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F40 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

surekill() returned FAIL during CNI initialization kernel process (CNIINIT) non-critical initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The operating system function surekill() returned FAIL.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- g = Index into CNIINIT's process table that points to the child process.
- z = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was in the early stages of a non-critical initialization. It was attempting to surekill all non-critical processes. surekill() returned FAIL.

## 6. CORRECTIVE ACTION

None. CNIINIT will reschedule the non-critical initialization for later.

**PRM:EExx-8F41****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F41 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error in acknowledgment message from operating system.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The index in the acknowledgment message did not match any CNIINIT child



processes (out of range).

- 02 = The acknowledge message was for a "critical" process, not a "non-critical" process.
- 03 = The process state of the process indicated in the acknowledgment was not in the correct ("SUREKILL") state. ("SUREKILL" is a operating system feature.)
- 04 = The "ms\_stat" field of the message was NOT "MSNOERR", that is, it is "FAIL", "BADTYPE" or "NOTERM".

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Valid values are:

| If "w" =     | "z" =                                                                |
|--------------|----------------------------------------------------------------------|
| 01, 02 or 03 | Index into CNIINIT's process table that points to the child process. |
| 01, 02 or 03 | Contains the ms_stat value.                                          |

- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received an acknowledgment from operating system following a "surekill" request. An error was detected.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8F42****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F42 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on operating system response.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = CNIINIT's variable "trid" does not match any known process (out of range).

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 | = The timeout applies to a critical process.                                                                                                          |
| 03 | = The state of the process indicated by "trid" is not in the "SUREKILL" state as expected. ("SUREKILL" is an operating system feature.)               |
| x  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z  | = Index into CNIINIT's process table that points to the child process (the CNIINIT variable "trid").                                                  |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

A timeout has occurred while waiting on a message from operating system. The timeout did not seem to apply to any process currently being surekilled.

## 6. CORRECTIVE ACTION

None. This is self-correcting. The timeout will be ignored.

**PRM:EExx-8F46****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F46 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to complete non-critical initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = IMS did not complete its non-critical initialization.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Not used.                                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT was waiting for completion of the IMS non-critical initialization. A timeout occurred instead.

## 6. CORRECTIVE ACTION

None. CNIINIT will announce the end of the non-critical initialization anyway. IMS may complete the non-critical initialization at some point in the future.

**PRM:EExx-8F4B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F4B wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error with a child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from CNIINIT.

w = The error within the function. Valid values are:

01 = A dead critical process was detected.

03 = CNIINIT's "bootchild()" function returned FAIL when attempting to recreate a non-critical process.

04, 05 = Operating system's "surekill()" function returned FAIL when attempting to terminate a non-critical process.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Valid values are:

| If "w" =      | "z"                                                                                                                                                                   |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01            | Not used.                                                                                                                                                             |
| 03, 04, or 05 | An index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual. |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

An error occurred. This PRM is issued from the "NCscanner" state. NCscanner is responsible for insuring that all processes are up and running. If a zombie process is found, it will be killed and recreated. If a process is dead, it will be recreated.

## 6. CORRECTIVE ACTION

| If "w" =      | Action:                                                                                                                        |
|---------------|--------------------------------------------------------------------------------------------------------------------------------|
| 01            | CNIINIT will call a full process initialization (FPI) initialization and the parent of CNIINIT will restart the CNI subsystem. |
| 03, 04, or 05 | CNIINIT will take no immediate action. The process will be retried later.                                                      |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:EExx-8F4C****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F4C wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error in an acknowledgment message from the operating system.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:



- 01                   = The "ms\_stat" field in the acknowledgment message was not "MSNOERR" (that is, FAIL, BADTYPE or NOTERM).
- x                   = The state CNIINIT was in when the PRM was issued.
- y                   = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z                   = The "ms\_stat" field from the acknowledgment message.
- h                   = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has received an acknowledgment message from the operating system following a "surekill" request. An error was detected.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8F4D****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F4D wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error in an acknowledgment message from the operating system.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The process indicated in the message did not match any CNIINIT processes (ms\_ident out of range).

02 = Operating system (message) reported an error when attempting to pcreate a process.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Valid values are:

| If "w" = | "x" =                                                                |
|----------|----------------------------------------------------------------------|
| 01       | Value contained in the "ms_ident" field.                             |
| 02       | Index into CNIINIT's process table that points to the child process. |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received an acknowledgment from operating system following a "pcreate" request of a non-critical process. An error occurred.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8F4E****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F4E wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received operating system trap (OST) from wrong child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Received the "clalive()" OST from the wrong process (variable "ost\_ident" did not

match the expected index).

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in whgch the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process (variable "ost\_ident").
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received a "clalive()" OST from a child process. An error was detected.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8F4F****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F4F wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on the operating system response.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Timeout on a "pcreate" attempt of process z.

02 = Timeout on a "surekill" attempt of process z.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table that points to the child process.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for an acknowledgment to a "pcreate" or "surekill" request. A timeout occurred.

## 6. CORRECTIVE ACTION

None. CNIINIT will try again later.

**PRM:EExx-8F50****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F50 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

"sendchild()" returned FAIL when attempting to send "STOP\_PROC" message to CNI initialization kernel process (CNIINIT) child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:



- 01                   = The function "sendchild()" returned FAIL.
- x                   = The state CNIINIT was in when the PRM was issued.
- y                   = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z                   = Index into CNIINIT's process table that points to the child process.
- h                   = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was attempting to send a "START PROC" to a child process. The function "sendchild()" returned FAIL.

## 6. CORRECTIVE ACTION

None. CNIINIT will "surekill" this process and recreate it later.

**PRM:EExx-8F51****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F51 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on child process response to "START\_PROC" message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Timeout while waiting for "clstart()" from process z.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table that points to the child process.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for a child process to use the "clstart()" operating system trap (OST) (to acknowledge the "START PROC"). A timeout occurred.

## 6. CORRECTIVE ACTION

None. CNIINIT will "surekill" this process and recreate it later.

**PRM:EExx-8F53****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F53 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

No timers available for CNI initialization kernel process (CNIINIT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Unable to allocate a timer.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Not used.                                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT was attempting to schedule another run of the "NCscanner". CNIINIT was unable to allocate a timer.

## 6. CORRECTIVE ACTION

None. CNIINIT will clear all timers and try again.

**PRM:EExx-8F58****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F58 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Level 0 initialization request received by CNI initialization kernel process (CNIINIT) while currently in initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Unable to begin a level 0 initialization, a non-critical initialization is in progress.

|   |                                                                                                                                                     |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                 |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                |
| z | = CNIINIT's variable "NCstate".                                                                                                                     |
| h | Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

A request for a level 0 initialization was received. A non-critical initialization is in progress. CNIINIT cannot honor the level 0 request while the non-critical initialization is running.

## 6. CORRECTIVE ACTION

None. Request is ignored. Wait until the non-critical initialization is complete and then ask for another level 0 initialization.

**PRM:EExx-8F5A****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F5A wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) audit encountered too many errors.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

02 = A critical audit had too many uncorrected errors.



- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's audit table that points to the audit in question.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT is running a level 0 initialization. A message was received from the operating system indicating the completion of an audit. The audit is critical and the number of uncorrected errors exceeds the threshold permitted.

## 6. CORRECTIVE ACTION

None. CNIINIT will begin a level 1 initialization.

**PRM:EExx-8F5F****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F5F wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) is escalating from level 0 to level 1 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

8F = The PRM originates from CNIINIT.

w = The error within the function. Valid values are:

01 = Escalating the level 0 to a level 1 initialization.

x = The state CNIINIT was in when the PRM was issued.

- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = CNIINIT's variable "errcode".
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was running a level 0 initialization. A request for a level 1 arose.

## 6. CORRECTIVE ACTION

None. CNIINIT will shut down the level 0 and begin a level 1 initialization.

**PRM:EExx-8F98****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_P EEda 8F98 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) encountered an error while using "sendchild()".

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The operating system function "kportid()" returned "BADPORT" when attempting

to get a child process pid.

- 02 = The operating system function "kportid()" returned "NULLPRC" when attempting to get a child process pid.
- 03 = Unable to allocate a CNIINIT timer to guard a child process.
- 04 = Unable to allocate an operating system message buffer to send a child process a signal.
- 05 = The CNIINIT function "sendmsg()" returned FAIL when called to send a signal to a child process.
- 06 = The operating system trap (OST) "sendevent()" returned FAIL when called to send a operating system event to a child process.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is issued by the "sendchild()" function. "sendchild()" sends events and signals to CNIINIT child processes to inform them of initialization activities. An error occurred.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8F99****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8F99 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) encountered an error while using "surekill()".

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from CNIINIT.

w = The error within the function. Valid values are:

01 = Unable to allocate a CNIINIT timer to guard the "surekill" sequence.

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 | = Unable to allocate an operating system message buffer to send the "surekill" request message with.                                                  |
| 03 | = The "surekill()" function was passed an illegal parameter for the field "type".                                                                     |
| 04 | = The CNIINIT function "sendmsg()" returned FAIL when called to send the "surekill" message.                                                          |
| x  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z  | = Index into CNIINIT's process table that points to the child process.                                                                                |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM is issued by the CNIINIT function "surekill()". This function is used to cleanly and completely kill processes by process identification (PID) or utility ID. An error occurred.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8FA0****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8FA0 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered using "acknow()" to return creation messages to CNI initialization kernel process (CNIINIT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

8F = The PRM originates from the CNIINIT.

w = Error number within the function. Valid values are:

01 = A process could not be created because the "p" file did not exist (operating system error "MSNOPFILE").

02 = A process could not be created because the system is in disk independent



operation (DIOP).

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Contains the value of child\_num. The variable child\_num is an index into CNIINIT's child process creation table. To determine which process child\_num points to, refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The acknow function is used to handle return codes following process creation attempts.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                             |
|----------|-----------------------------------------------------------------------------------------------------|
| 01       | Decode <i>z</i> and insure the process file exists.                                                 |
| 02       | The system is in DIOP, the disk hardware must be repaired before CNIINIT can recreate this process. |

**PRM:EExx-8FA6****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8FA6 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Parameter passed to CNI initialization kernel process (CNIINIT) "cancldmr()" was out of range.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The parameter passed to function "cancldmr()" is out of range.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = The parameter as passed to cancltimr.                                                                                                               |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The function "cancltimr()" is used to cancel internal timers set earlier by CNIINIT. Some function in CNIINIT called "cancltimr()" with an illegal parameter.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-8FAD****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EEda 8FAD wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Parameter passed to CNI initialization kernel process (CNIINIT) "bumpnxtr()" was out of range.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The parameter passed to the "bumpnxtr()" function is out of range.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = The parameter as passed to "bumpnxtr()".                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

"bumpnxtr()" is called to compute a new value for the variable "next\_try". However, "bumpnxtr()" was called with a parameter that is out of range.

## 6. CORRECTIVE ACTION

None. This is self-correcting.

**PRM:EExx-C000****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C000 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Non-operating system for distributed switching (OSDS) ASSERT failure during an administrative module (AM) D2-D4 before normal operator output is operational.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = ASSERT code in hexadecimal.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This PRM reports an ASSERT from a non-OSDS process during a D2-D4 AM initialization [switch maintenance kernel process (SMKP) ASSERTs use PRM:EExx-C5xx and operational kernel process (OKP) ASSERTs use PRM:EExx-C6xx].

## **6. CORRECTIVE ACTION**

Corrective action is a function of the specific ASSERT code, which can be found in the 5ESS<sup>®</sup> Switch Asserts Manual, 235-600-500.

**PRM:EExx-C100****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C100 yyyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Failure of the process manager (PMGR) to create a non-essential or killable real time reliable operating system application process for AIM.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

C100 = Application function (PMGR failure to create non-essential/killable process).

y = Operating system application process utility identifier (ID). Valid values are:

0188 = Operating system supervisor overload monitor process (SUOVPRC).

0411 = Switch maintenance power switch monitor (SMPSM).



|      |                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0450 | = Pump control (PUCR).                                                                                                                                 |
| 0451 | = Automatic message accounting disk writer (AMDW).                                                                                                     |
| 0710 | = Switch maintenance diagnostic input message processor (SMDIMP). SMDIMP is also referred to as deferred maintenance administrator and monitor (DMAM). |
| 07DD | = Automatic message accounting disk writer 1 (AMDW1).                                                                                                  |
| 07CE | = Automatic message accounting disk writer 2 (AMDW2).                                                                                                  |
| 000A | = AIM timed out waiting for a PMGR response.                                                                                                           |

z = PMGR failure code. Convert from hexadecimal to decimal and consult the REPT:PMGR output message in the Output Messages manual, 235-600-750, for an explanation.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is put out only on process manager failures that are non-critical to the administrative module (AM).

## 6. CORRECTIVE ACTION

Using the process manager error code and the process identity, check that the disk files, which are necessary for process creation, are in their correct directory location and that they have the correct header information in them.

**PRM:EExx-C232****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C232 0t0u wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) or re-synchronization control (RCON).

**3. FUNCTION**

Failure of the H2, H3, or H4 level hardware initialization step in SMKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

t = Communication module (CM) hardware initialization level. Valid values are:

2 = H2 initialization (AM/CM re-synchronization).

3 = H3 initialization without inhibit hardware checks.

4 = H4 initialization without inhibit hardware checks.

B = H3 initialization with inhibit hardware checks.

C = H4 initialization with inhibit hardware checks.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 results. Same options as variable w.

y = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 results. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON or ROCN will produce this PRM, using the application integrity monitor (AIM), if the CM hardware initialization step fails.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C235****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C235 0t0u wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) or re-synchronization control (RCON).

**3. FUNCTION**

Failure of the communication link initialization phase in SMKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

t = Communication module (CM) hardware initialization level. Valid values are:

2 = H2 initialization (AM/CM re-synchronization).

3 = H3 initialization without inhibit hardware checks.

4 = H4 initialization without inhibit hardware checks.

B = H3 initialization with inhibit hardware checks.

C = H4 initialization with inhibit hardware checks.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 results. Same options as variable w.

y = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 results. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON or ROCN will produce this PRM, using the application integrity monitor (AIM), if the communication link initialization step fails.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C237****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C237 0t0u wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) or re-synchronization control (RCON).

**3. FUNCTION**

Failure of the enable fault recovery step in SMKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent *UNIX*® RTR Operating System initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

t = Communication module (CM) hardware initialization level. Valid values are:

2 = H2 initialization (AM/CM re-synchronization).

3 = H3 initialization without inhibit hardware checks.

4 = H4 initialization without inhibit hardware checks.

B = H3 initialization with inhibit hardware checks.

C = H4 initialization with inhibit hardware checks.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 results. Same options as variable w.

y = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 results. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON or ROCN will produce this PRM, using the application integrity monitor (AIM), if the enable fault recovery step of SMKP initialization fails.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C238****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C238 0t0u wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Failure of an H3/H4 level communication module (CM) hardware initialization, while in minimum mode (MINMODE).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

t = CM hardware initialization level. Valid values are:

B = H3 initialization with inhibit hardware checks.

C = H4 initialization with inhibit hardware checks.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP)



results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

$w$  = Message switch (MSGS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

$x$  = MSGS side 1 results. Same options as variable  $w$ .

$y$  = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

$z$  = ONTC side 1 results. Same options as variable  $y$ .

$h$  = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON will produce this PRM using the application integrity monitor (AIM), if communication module hardware initialization fails, and the office is operating under administrative module (AM) minimum mode.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C250****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C250 rstu wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) or re-synchronization control (RCON).

**3. FUNCTION**

Report of a failed initialization for either a communication module processor (CMP), foundation peripheral controller (FPC), office network and timing complex (ONTC), quad link packet switch gateway processor (QGP), quad link packet switch (QLPS), message switch control unit (MSCU) or, pump peripheral controller (PPC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

r = Unit implicated in failure. Valid values are:

0 = CMP - side 0.

1 = CMP - side 1.

|   |                  |
|---|------------------|
| 2 | = QGP - side 0.  |
| 3 | = QGP - side 1.  |
| 4 | = QLPS - side 0. |
| 5 | = QLPS - side 1. |
| 6 | = ONTC - side 0. |
| 7 | = ONTC - side 1. |
| 8 | = MSCU - side 0. |
| 9 | = MSCU - side 1. |
| A | = FPC - side 0.  |
| B | = FPC - side 1.  |
| E | = PPC - side 0.  |
| F | = PPC - side 1.  |

s = Communication module (CM) hardware initialization level. Valid values are:

|   |                                                                         |
|---|-------------------------------------------------------------------------|
| 3 | = H3 initialization without inhibit hardware checks.                    |
| 4 | = H4 initialization without inhibit hardware checks.                    |
| A | = Stand-alone level-3 hardware initialization (for MSCU and ONTC only). |
| B | = H3 hardware initialization with inhibit hardware checks.              |
| C | = H4 hardware initialization with inhibit hardware checks.              |

t = Desired resultant state. Valid values are:

|   |                                             |
|---|---------------------------------------------|
| 1 | = Active (MSCU, FPC, PPC, QGP, QLPS, only). |
| 2 | = Active-forced (MSCU and ONTC only).       |
| 3 | = Active-major (ONTC only).                 |
| 4 | = Active-minor (ONTC only).                 |
| 5 | = Standby (FPC, PPC, QLPS only).            |

u = DLICON timing synchronization result (applicable to ONTC only). Valid values are:

|   |                                                                                                 |
|---|-------------------------------------------------------------------------------------------------|
| 0 | = No dual link interface (DLI) timing synchronization ordered or variable $\tau$ is not 6 or 7. |
| A | = DLI timing synchronization failed completely.                                                 |

- C = DLI timing synchronization timed out.
- D = Unable to update data delivery (DD) structures.
- E = Failure of central processor intervention (CPI) mechanism detected.

w = NCCON initialization result (variable  $r$  is 6 or 7). Valid values are:

- 0 = Variable  $r$  is not 6 or 7.
- 1 = Network clock (NCLK) initialization triggered.
- A = NCLK initialization failed.
- C = NCLK initialization timed out.
- F = NCLK initialization successful.

x = If variable  $r$  is 6 or 7,  $x$  is the NCCON initialization result. Valid values are:

- 0 = No time multiplexed switch (TMS) initialization attempted, or variable  $r$  is not 6 or 7.
- 1 = TMS initialization triggered.
- A = TMS initialization failed.
- C = TMS initialization timed out.
- F = TMS initialization successful.

If variable  $r$  is 2, 3, 4, or 5,  $x$  is the QGP or QLPS unit information. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                       |
|-----|-------|---------------------------------------------------|
| 1   | 1     | QLPS network 1 or QGP logical 1 is available.     |
|     | 0     | QLPS network 1 or QGP logical 1 is not available. |
| 0   | 1     | QLPS network 0 or QGP logical 0 is available.     |
|     | 0     | QLPS network 0 or QGP logical 0 is not available. |

y = LICON initialization result (applicable to CM1 vintage ONTC only). Valid values are:

- 0 = No link interface (LI) initialization attempted or variable  $r$  is not 6 or 7.
- 1 = LI initialization triggered.
- A = LI initialization failed.
- B = Unable to unforce mate LI.
- C = LI initialization timed out.
- F = LI initialization successful.

z = If variable *r* equals 0–5, 8–B, E, or F, then *z* is the MSCU, CMP, FPC, PPC, QGP, or QLPS initialization result. Valid values are:

- A = Initialization failed due to hardware failure.
- C = ICON timed out on unit "configuration" process.
- F = Only some units failed (variable *r* = 2 or 3).

If variable *r* equals 6 or 7, then *z* is the Message interface (MI) initialization result. Valid values are:

- 0 = No MI initialization attempted.
- A = MI initialization failed due to hardware failure.
- C = ICON timed out on unit "configuration" process.
- F = MI initialization successful.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON or RCON produces this PRM using the application integrity monitor (AIM), only if an ONTC, MSCU, FPC, or PPC failed initialization.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C25A****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C25A twxy zzzz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) or re-synchronization control (RCON).

**3. FUNCTION**

Report failure of some or all module message processors (MMPs) on a message switch (MSGs) side.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

t = Units implicated in failure. Valid values are:

C = MMPs on side 0.

D = MMPs on side 1.

w = Communication module (CM) hardware initialization level/inhibit hardware checks indicator. Valid

values are:

3 = H3 initialization without inhibit hardware checks.

4 = H4 initialization without inhibit hardware checks.

B = H3 initialization with inhibit hardware checks.

C = H4 initialization with inhibit hardware checks.

x = Initialization result. Valid values are:

A = All MMPs failed on this side.

C = ICON timed out on MMP "configuration" process (some or all MMPs failed on this side).

F = Only some MMPs failed.

y = MMP logical identifier (ID) range. Valid values are:

0 = Logical IDs represented by variable *z* range from 0 through 15.

1 = Add an offset of 15 to logical IDs represented by variable *z* range from 16 through 31.

2 = Add an offset of 31 to logical IDs represented by variable *z* range from 32 through 47.

z = Bit-packed representation of the logical ID numbers of MMPs that are to be removed. The rightmost bit ("bit 0") represents MMP logical ID 0, "bit 1" represents MMP logical ID 1, and so forth.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON or RCOPN produces this PRM, using the application integrity monitor (AIM), if all or some MMPs in a MSGS system side failed.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C25B****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C25B yz00 0000 hh hh hh

**2. PRM SOURCE**

Initialization control (ICON).

**3. FUNCTION**

Report that the active communication module processor (CMP) could not be linked during an administrative module (AM) initialization. This could be because either the CMPs could not be queried or the queries were inconsistent during the communication module (CM) hardware initialization phase, or the active CMP failed to be linked during the communication link phase of initialization. A standby CMP deactivated prior to the AM initialization will not be made active.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Units implicated in failure. Valid values are:

3 = Both communication module processors (CMPs).



- z = Hardware initialization level/inhibit hardware checks indicator. Valid values are:
- 3 = Level-3 hardware initialization without inhibit hardware checks.
  - 4 = Level-4 hardware initialization without inhibit hardware checks.
  - B = Level-3 hardware initialization with inhibit hardware checks.
  - C = Level-4 hardware initialization with inhibit hardware checks.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON produces these PRMs using the application integrity monitor (AIM), only if no active CMP was linked prior to SMKP going fully operational (approximately 3 or 4 minutes after the initial AM initialization).

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C25C****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C25C rstu wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

The office network and timing complex (ONTC) initialization "watchdog timer" was exceeded.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

r = Unit that failed initialization. Valid values are:

6 = ONTC - side 0.

7 = ONTC - side 1.

s = Communication module (CM) hardware initialization level. Valid values are:

- 3 = H3 initialization without inhibit hardware checks.
- 4 = H4 initialization without inhibit hardware checks.
- B = H3 initialization with inhibit hardware checks.
- C = H4 initialization with inhibit hardware checks.

t = Desired resultant state. Valid values are:

- 3 = Active-major.
- 4 = Active-minor.

u = DLICON timing synchronization result. Valid values are:

- 0 = No dual link interface (DLI) timing synchronization ordered.
- A = DLI timing synchronization failed completely.
- C = DLI timing synchronization timed out.
- D = Unable to update data delivery (DD) structures.
- E = Failure of central processor intervention (CPI) mechanism detected.

w = NCCON initialization result. Valid values are:

- 1 = Network clock (NCLK) initialization triggered.
- A = NCLK initialization failed.
- C = NCLK initialization timed out.
- F = NCLK initialization successful.

x = TMSCON initialization result. Valid values are:

- 0 = No time multiplex switch (TMS) initialization attempted.
- 1 = TMS initialization triggered.
- A = TMS initialization failed.
- C = TMS initialization timed out.
- F = TMS initialization successful.

y = LICON initialization result (CM1 only). Valid values are:

- 0 = No link interface (LI) initialization attempted.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | = LI initialization triggered.                                                                                                                        |
| A | = LI initialization failed.                                                                                                                           |
| C | = LI initialization timed out.                                                                                                                        |
| F | = LI initialization successful.                                                                                                                       |
| z | = MICON initialization result. Valid values are:                                                                                                      |
| 0 | = No message interface (MI) initialization attempted.                                                                                                 |
| A | = MI initialization failed.                                                                                                                           |
| C | = MI initialization timed out.                                                                                                                        |
| F | = MI initialization successful.                                                                                                                       |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

ICON produces this PRM using the application integrity monitor (AIM) when an ONTC overall watchdog timer fires indicating ONTC initialization exceeded its time limit and failed.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C260****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p EE<sub>da</sub> C260 wxyy zzzz hh hh hh**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization fault recovery strategies (IFRS).

**3. FUNCTION**

Report of the detection and ordered removal of a faulty message switch control unit (MSCU), communication module processor (CMP), foundation peripheral controller (FPC), office network and timing complex (ONTC), module message processor (MMP), quad link packet switch gateway processor (QGP), or pump peripheral controller (PPC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Unit detected as faulty. Valid values are:

0 = CMP - side 0.

1 = CMP - side 1.

|   |                  |
|---|------------------|
| 0 | = QGP - side 0.  |
| 1 | = QGP - side 1.  |
| 6 | = ONTC - side 0. |
| 7 | = ONTC - side 1. |
| 8 | = MSCU - side 0. |
| 9 | = MSCU - side 1. |
| A | = FPC - side 0.  |
| B | = FPC - side 1.  |
| C | = MMP on side 0. |
| D | = MMP on side 1. |
| E | = PPC - side 0.  |
| F | = PPC - side 1.  |

**x** = Action taken. Valid values are:

|   |                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------|
| 0 | = Report only.                                                                                        |
| 1 | = Removal ordered (only if variable <i>r</i> is A, B, E, or F).                                       |
| 2 | = Unit marked out-of-service (OOS) in status data (only if variable <i>r</i> is 0, 1, 8, 9, A, or B). |

**y** = MMP logical ID range (variable *r* = C or D). Valid values are:

|    |                                                            |
|----|------------------------------------------------------------|
| 00 | = Logical IDs in variable <i>z</i> which range from 0-15.  |
| 10 | = Logical IDs in variable <i>z</i> which range from 16-31. |
| 20 | = Logical IDs in variable <i>z</i> which range from 32-47. |

QGP logical range is 00.

**z** = Bit-packed representation of the logical ID numbers of MMPs or QPGs that are to be removed. The rightmost bit ("bit 0") represents logical ID 0, "bit 1" represents logical ID 1, and so forth.

**h** = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

IFRS produces this PRM, using the application integrity monitor (AIM) if a fault is detected (report of a hard fault by a

switch maintenance error recognition (SMER) process, or a status data inconsistency) and/or a removal is ordered for an MSCU, CMP, FPC, MMP, ONTC, QLPS, QGP, or PPC that was in service.

## **6. CORRECTIVE ACTION**

None.

**PRM:EExx-C270****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C270 y000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) and initialization fault recovery strategies (IFRS).

**3. FUNCTION**

Report of failure of an H2 initialization action.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Unit and action involved. Valid values are:

6 = Failure to re-allow interrupts to office network and timing complex (ONTC) 0.

7 = Failure to re-allow interrupts to ONTC 1.

8 = Failure to bring message switch control unit (MSCU) 0 out of stand-alone mode.



9 = Failure to bring MSCU 1 out of stand-alone mode.

z = Mode of failure. Valid values are:

A = Reported failure.

C = Time-out failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON/IFRS will produce these PRMs using the application integrity monitor (AIM) after detecting failure of H2 initialization actions on the MSCUs and ONTCs.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C271****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C271 0000 yy0z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization fault recovery strategies (IFRS).

**3. FUNCTION**

Report of ordered communication link (CLNK) removals, quad link packet switch (QLPS) gateway links (QGL), or QLPS pipes (QPIPE).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Unit implicated in failure. Valid values are:

6 = QGL - MSCU side 0.

7 = QGL - MSCU side 1.

8 = CLNK.

9 = QPIPE - ONTC side 0.

a = QPIPE - ONTC side 1.

y = Valid values are:

| If "x" = | "y" =                                                                                    |
|----------|------------------------------------------------------------------------------------------|
| 6 or 7   | The QGP of the QGL being removed. (20 - QGP 0; 21 - QGP 1).                              |
| 8        | The switching module (SM) associated with the removed CLNK.                              |
| 9 or a   | The endpoint associated with the removed QPIPE (C1 or C2 for QGPQPIPE rest are MHQPIPE). |

z = Valid values are:

| If "x" = | "z" =                                                             |
|----------|-------------------------------------------------------------------|
| 6 or 7   | The QGL port of the removed QGL (0-3).                            |
| 8        | The physical link number of the removed CLNK (range 0 through 7). |
| 9 or a   | The network of the QPIPE removed. (0-1).                          |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

IFRS produces this PRM using the application integrity monitor (AIM) whenever the SM reports that a link has been removed and an order is sent to communication link configuration (CLCON) to remove that same link at the administrative module (AM). IFRS also produces this PRM when QGLs or QPIPE are faulty and thus removed.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C272****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C272 y000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Report of a failure to remove the network clock (NCLK).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Office network and timing complex (ONTC) complex containing the unit in question. Valid values are:

6 = ONTC - side 0.

7 = ONTC - side 1.

z = Mode of failure. Valid values are:

A = Failure reported by network clock configuration (NCCON).

C = Time-out failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON will produce this PRM if an order to remove the network clock (NCLK) fails.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C274****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C274 y000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) or re-synchronization control (RCON) or initialization fault recovery strategies (IFRS).

**3. FUNCTION**

Report of a failure to remove message switch (MSGs) units or quad link packet switch (QLPS) as ordered.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Unit ordered removed. Valid values are:

0 = Communication module processor (CMP) - side 0.

1 = CMP - side 1.

2 = Quad link packet switch gateway processor (QGP) - side 0.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | = QGP - side 1.                                                                                                                                       |
| 4 | = Quad link packet switch (QLPS) - side 0.                                                                                                            |
| 5 | = QLPS - side 1.                                                                                                                                      |
| 8 | = Message switch control unit (MSCU) - side 0.                                                                                                        |
| 9 | = MSCU - side 1.                                                                                                                                      |
| A | = Foundation peripheral controller (FPC) - side 0.                                                                                                    |
| B | = FPC - side 1.                                                                                                                                       |
| C | = Module message processors (MMPs) on side 0.                                                                                                         |
| D | = MMPs on side 1.                                                                                                                                     |
| E | = Pump peripheral controller (PPC) - side 0.                                                                                                          |
| F | = PPC - side 1.                                                                                                                                       |
| z | = Mode of failure. Valid values are:                                                                                                                  |
| A | = Reported failure.                                                                                                                                   |
| C | = Time-out failure.                                                                                                                                   |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

ICON, RCON or IFRS will produce this PRM using the application integrity monitor (AIM) if an order to remove an MSCU, FPC, CMP, MMP, PPC, QGP, or QLPS fails.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C275****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C275 y000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) or re-synchronization control (RCON) or initialization fault recovery strategies (IFRS).

**3. FUNCTION**

A report from ICON or IFRS of one of the following failures:

- Failure to elevate a communication module processor (CMP), or foundation peripheral controller (FPC), or quad link packet switch (QLPS), or pump peripheral controller (PPC) from standby (STBY) to active (ACT).
- Failure to synchronize the module message processor (MMP) timing source.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Unit and action involved. Valid values are:



|   |                                                                                                                                                       |   |                     |   |                     |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|---|---------------------|---|---------------------|
| 0 | = CMP elevation - side 0.                                                                                                                             |   |                     |   |                     |
| 1 | = CMP elevation - side 1.                                                                                                                             |   |                     |   |                     |
| 4 | = QLPS - side 0.                                                                                                                                      |   |                     |   |                     |
| 5 | = QLPS - side 1.                                                                                                                                      |   |                     |   |                     |
| A | = FPC elevation - side 0.                                                                                                                             |   |                     |   |                     |
| B | = FPC elevation - side 1.                                                                                                                             |   |                     |   |                     |
| C | = MMP synchronization - side 0.                                                                                                                       |   |                     |   |                     |
| D | = MMP synchronization - side 1.                                                                                                                       |   |                     |   |                     |
| E | = PPC elevation - side 0.                                                                                                                             |   |                     |   |                     |
| F | = PPC elevation - side 1.                                                                                                                             |   |                     |   |                     |
| z | = Mode of failure. Valid values are:<br><table><tr><td>A</td><td>= Reported failure.</td></tr><tr><td>C</td><td>= Time-out failure.</td></tr></table> | A | = Reported failure. | C | = Time-out failure. |
| A | = Reported failure.                                                                                                                                   |   |                     |   |                     |
| C | = Time-out failure.                                                                                                                                   |   |                     |   |                     |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |   |                     |   |                     |

## 5. EXPLANATION

ICON/IFRS will produce this PRM using the application integrity monitor (AIM) if a failure occurs in elevating an CMP, FPC, QLPS or PPC from STBY to ACT, or synchronizing the MMP timing source.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C276****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C276 0000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Failure of the communication link initialization step in SMKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Mode of failure. Valid values are:

A = Reported failure.

C = Time-out failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

ICON will produce this PRM using the application integrity monitor (AIM) if the initialization of communication links and related hardware fails.

## **6. CORRECTIVE ACTION**

None.

**PRM:EExx-C277****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da C277 0000 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Report of ICON time-out on IFRS response to a request to remove faulty communication module (CM) units at the end of hardware initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ICON will produce these PRMs using the application integrity monitor (AIM) if IFRS fails to respond to an ICON

request to remove faulty CM units within the allotted time-out interval.

## **6. CORRECTIVE ACTION**

None.

**PRM:EExx-C278****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da C278 0000 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Report of ICON time-out on replacement of the initialization fault recovery strategies (IFRS) program with the switch maintenance analysis and recovery strategies (SMARS) program.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ICON will produce these PRMs using the application integrity monitor (AIM) if replacement of the IFRS program by

SMARS fails to occur within the allotted time-out interval. This replacement occurs during the "Enable Fault Recovery" stage of SMKP initialization.

## **6. CORRECTIVE ACTION**

None.

**PRM:EExx-C279****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C279 0t0u wxyz hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) or re-synchronization control (RCON) or initialization fault recovery strategies (IFRS).

**3. FUNCTION**

ICON/IFRS/RCON detected communication module (CM) duplex failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

t = Step where CM duplex failure was detected. Valid values are:

2 = Hardware initialization.

5 = Communication link initialization.

7 = Enable fault recovery.



u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 results. Same options as variable w.

y = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 results. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON, RCON, or IFRS will produce this PRM using the application integrity monitor (AIM) when a CM duplex failure is detected. AIM will be requested to escalate to a new administrative module (AM) initialization as the only recourse for recovery.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C27A****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C27A 0000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Notification of a single process purge (SPP) of ICON.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Step where SPP was encountered. Valid values are:

1 = Software initialization.

2 = Hardware initialization.

5 = Communication link initialization.

7 = Enable fault recovery.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON will produce this PRM using the application integrity monitor (AIM) if it is subjected to an SPP.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C27B****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C27B 0000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization fault recovery strategies (IFRS).

**3. FUNCTION**

Notification of a single process purge (SPP) of IFRS.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Step where SPP was encountered. Valid values are:

1 = Software initialization.

2 = Hardware initialization.

5 = Communication link initialization.

7 = Enable fault recovery.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

IFRS will produce this PRM using the application integrity monitor (AIM) if it is subjected to an SPP.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C27C****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C27C 0000 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) and initialization fault recovery strategies (IFRS).

**3. FUNCTION**

Notification of SMKP escalation of communication module (CM) initialization in administrative module (AM) minimum mode.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ICON or IFRS will produce this PRM using the application integrity monitor (AIM) when beginning escalation strategies due to CM duplex failure, with AM minimum mode in effect.

## **6. CORRECTIVE ACTION**

None.

**PRM:EExx-C27D****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C27D z000 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON) and initialization fault recovery strategies (IFRS).

**3. FUNCTION**

Notification of SMKP escalation of communication module (CM) initialization in normal mode.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating System initialization specified in variable d.

z = Step during which escalation occurred. Valid values are:

0 = Hardware initialization.

1 = Communication link initialization.



h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

ICON or IFRS will produce this PRM using the application integrity monitor (AIM) when beginning escalation strategies due to CM duplex failure, while in normal (that is, not minimum) mode.

## **6. CORRECTIVE ACTION**

None.

**PRM:EExx-C27E****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C27E y000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Failure of a time multiplexed switch (TMS) removal.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Office network and timing complex (ONTC) containing the unit in question. Valid values are:

6 = ONTC side 0.

7 = ONTC side 1.

z = Mode of failure. Valid values are:

A = Failure reported by time multiplexed switch configuration (TMSCON).

C = Time-out failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON will produce these PRMs if TMS removal fails.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C27F****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C27F y000 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization control (ICON).

**3. FUNCTION**

Report of failure to set up normal central processor intervention (CPI) on major (simplex) dual link interfaces (DLIs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Office network and timing complex (ONTC) containing the unit in question. Valid values are:

6 = ONTC side 0.

7 = ONTC side 1.

z = Mode of failure. Valid values are:

A = Failure reported by dual link interface configuration (DLICON).

C = Time-out failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

ICON will produce these PRMs using the application integrity monitor (AIM) if an ordered DLI removal fails.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C2A9****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C2A9 00yz 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance (SM) database initialization.

**3. FUNCTION**

Report of a "mixed" CM1/CM2 office configuration that does not have the appropriate force conditions on communication module (CM) hardware.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = CM vintage of side 0. Valid values are:

1 = CM1 vintage.

2 = CM2 vintage.

z = CM vintage of side 1. Valid values are:

1 = CM1 vintage.

2 = CM2 vintage.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The SM database initialization function "SMinpopseq()" will produce this PRM, using the application integrity monitor (AIM), after finding a mixed CM1/CM2 vintage configuration, that does not have the appropriate hardware forces applied.

## 6. CORRECTIVE ACTION

As soon as possible, conversion personnel should determine the system side to which hardware forces should be applied, and reinitialize based on that criterion.

**PRM:EExx-C2AA****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C2AA 00xy 000z hh hh hh

**2. PRM SOURCE**

Switch maintenance kernel process (SMKP) initialization fault recovery strategies (IFRS).

**3. FUNCTION**

Report that communication module (CM) "hardware forces" were applied automatically because no (or inadequate) forces were manually defined in an environment with mixed CM vintage.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = CM vintage of side 0. Valid values are:

1 = CM1 vintage.

2 = CM2 vintage.



|   |                                                                                                                                                         |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| y | = CM vintage of side 1. Valid values are:                                                                                                               |
| 1 | = CM1 vintage.                                                                                                                                          |
| 2 | = CM2 vintage.                                                                                                                                          |
| z | = Message switch (MSGS) and office network and timing complex (ONTC) side to which "hardware forces" have been applied automatically. Valid values are: |
| 0 | = Side 0.                                                                                                                                               |
| 1 | = Side 1.                                                                                                                                               |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.   |

## 5. EXPLANATION

IFRS will produce this PRM using the application integrity monitor (AIM) if a mixed CM1/CM2 vintage is found without the appropriate "hardware forces" applied. IFRS automatically applies "hardware forces" it assumes are correct (perhaps an erroneous choice).

## 6. CORRECTIVE ACTION

As soon as possible, conversion personnel should determine the system side to which "hardware forces" should be applied, and reinitialize based on those criteria (unless IFRS has selected the correct "hardware forces").

**PRM:EExx-C2F5****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da C2F5 0000 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance (SM) database initialization.

**3. FUNCTION**

Report of a failed SM database initialization (software level S5).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The SM database initialization function "SMinit\_data()" will produce this PRM using the application integrity monitor (AIM) upon failing software initialization at level S5.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C2F6****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C2F6 wxyz 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance (SM) database initialization (S6).

**3. FUNCTION**

Report of a failed SM database initialization (S6 software level).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Communication module (CM) hardware initialization level. Valid values are:

2 = H2 initialization.

3 = H3 initialization.

4 = H4 initialization.

- x = This value indicates the number of initialization attempts that were preempted immediately prior to the one currently in progress. Note that this value is forced to a nonzero value if the software detects that only simplex CM configurations should be initialized.
- y = Initialization type. Valid values are:
- 1 = Nonpreempting initialization.
  - 2 = Preempting initialization.
- z = Type of failure. Valid values are:
- 1 = Office network and timing complex (ONTC) data inconsistency.
  - 2 = Office dependent data (ODD) read failure.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The SM database initialization function "SMinit\_data()" will produce this PRM using the application integrity monitor (AIM) on failing its software initialization at software level S6.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-C2F7****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C2F7 wxyz 0000 hh hh hh

**2. PRM SOURCE**

Switch maintenance (SM) database initialization (S7).

**3. FUNCTION**

Report of a failed SM database initialization (S7 software level).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Communication module (CM) hardware initialization level. Valid values are:

2 = H2 initialization.

3 = H3 initialization.

4 = H4 initialization.

- x = This value indicates the number of initialization attempts that were preempted immediately prior to the one currently in progress. Note that this value is forced to a nonzero value if the software detects that only simplex CM configurations should be initialized.
- y = Initialization type. Valid values are:
- 1 = Nonpreempting initialization.
  - 2 = Preempting initialization.
- z = Type of failure. Valid values are:
- 1 = Office network and timing complex (ONTC) data inconsistency.
  - 2 = Office-dependent data (ODD) read failure.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The SM database initialization function "SMinit\_data()" will produce this PRM using the application integrity monitor (AIM) on failing its software initialization at software level S7.

## 6. CORRECTIVE ACTION

None.

**14. EExx-C300 — EExx-FFFF**



**PRM:EExx-C300****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C300 yyzz zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Report of a switch maintenance kernel process (SMKP) fault during a D2-D4 administrative module (AM) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

C300 = Application function (SMKP fault during AM initialization).

y = fcode - specific fault that occurred. Refer to the fault code appendixes in the Output Messages manual, 235-600-750.

z = 24 Low order bits of failing address in hexadecimal.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

This PRM reports an SMKP process fault during a D2-D4 AM initialization.

## **6. CORRECTIVE ACTION**

The system may have bad disk office-dependent data (ODD) or a corrupted SMKP disk file.

**PRM:EExx-C400****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C400 yyzz zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Report of an operational kernel process (OKP) fault during a D2-D4 administrative module (AM) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

C400 = Application function (OKP fault during AM initialization).

y = fcode (specific fault that occurred. Refer to the fault code appendixes in the Output Messages manual, 235-600-750.

z = 24 Low order bits of failing address in hexadecimal.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

This PRM reports an OKP process fault during a D2-D4 AM initialization.

## **6. CORRECTIVE ACTION**

The system may have bad disk office-dependent data (ODD) or a corrupted OKP disk files.

**PRM:EExx-C5xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C5yy yyyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Switch maintenance kernel process (SMKP) ASSERT failure during an administrative module (AM) D2-D4 before normal operator output is operational.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

C5 = Application function (SMKP ASSERT during AM initialization).

y = 24 Low order bits of failing address in hexadecimal.

z = ASSERT code in hexadecimal.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

This PRM reports an ASSERT from kernel process SMKP during a D2-D4 AM initialization [non-OSDS ASSERTs use PRM:EExx-C000 and operational kernel process (OKP) ASSERTs use PRM:EE-C6xx].

## **6. CORRECTIVE ACTION**

Corrective action is a function of the specific ASSERT code, which can be found in the Asserts manual, 235-600-500.

**PRM:EExx-C6xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C6yy yyyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Operational kernel process (OKP) ASSERT failure during an administrative module (AM) D2-D4 before normal operator output is operational.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

C6 = Application function (OKP ASSERT during AM initialization).

y = 24 Low order bits of failing address in hexadecimal.

z = ASSERT code in hexadecimal.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

This PRM reports an ASSERT from kernel process OKP during a D2-D4 AM initialization [non-operating system for distributed switching (OSDS) ASSERTs use PRM:EExx-C000 and SMKP ASSERTs use PRM:EExx-C5xx].

## **6. CORRECTIVE ACTION**

Corrective action is a function of the specific ASSERT code, which can be found in the Asserts manual, 235-600-500.



**PRM:EExx-C7xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C7xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Recent change roll forward (RCRF) failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

C7 = Application function (recent change roll forward failure).

x = Type of failure. Valid values are:

1B = AIM unable to signal RCRF to begin recent change roll forward.

1C = PMGR failed to create RCRF (variable z is PMGR error code).

- 1D = Unable to queue PMGR RCRF create message.
- 1E = RCRF completion report indicated failure (variable *y* = completion status, variable *z* = number of errors).
- 1F = RCRF died before completing recent change roll forward.
- 20 = RCRF timeout (variable *z* = timeout location).
- FD = Can't create RCRF -- no operating system message buffers available.

*y* = The recent change roll forward completion status when variable *d* is 1E. Valid values are:

- 0000 = completed.
- 0001 = conditionally completed (no recent changes to be reapplied).
- 0003 = aborted because of extensive errors.
- 0004 = could not open cplog file.
- 0007 = could not open or read rclogstat file.

*z* = Valid values are:

| If "x" = | "z" =                                                                                                           |
|----------|-----------------------------------------------------------------------------------------------------------------|
| 1C       | Process manager error code.                                                                                     |
| 1E       | Number of errors during RCRF.                                                                                   |
| 20       | Timeout location. Valid values are:<br><br>0001 = RCRF creation timeout.<br><br>0003 = RCRF completion timeout. |

*h* = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is printed when the recent change roll forward operating system process (whose disk path name is: /no5text/rcv/lginitroll) fails. The RCRF process may have been partially completed, resulting in only some of the recent changes being re-applied or the recent change log files may be corrupted and recent changes may be lost.

## 6. CORRECTIVE ACTION

Check the condition of the recent change log files. Check if there are missing recent changes. Attempt to either re-start recent change roll forward manually or re-input the missing recent changes.

**PRM:EExx-C8xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C8yy 0000 zzzz hh hh hh

**2. PRM SOURCE**

Process to load the office-dependent data (ODD) onto disk (PLOD).

**3. FUNCTION**

PLOD failed to load ODD onto disk.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

C8 = Application function (PLOD failure).

y = Type of failure. Valid values are:

00 = PLOD creation failure (INPCREATFAIL).

01 = global variable DBIdin could not be initialized (INPSDFAIL).

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 | = PLOD aborted during execution (INPLODABT).                                                                                                          |
| 03 | = /etc/aimrc and aimrc.tmp could not be opened for reading (INOPENFAIL).                                                                              |
| 04 | = lseek into file failed (INPSEEKFAIL).                                                                                                               |
| 05 | = aimrc file could not be read (INPREADFAIL).                                                                                                         |
| 06 | = makeseg from volume copy (VCP) failed (INVMAKESEGF).                                                                                                |
| 07 | = create from VCP failed (INVCREATF).                                                                                                                 |
| 08 | = open from VCP failed (INVVOPENF).                                                                                                                   |
| 09 | = fstat from VCP failed (INVSTATF).                                                                                                                   |
| 0A | = write from VCP failed (INVWRITEF).                                                                                                                  |
| 0B | = DTlib failed to attach to ODD (INNOATTODD).                                                                                                         |
| FF | = PLOD not run because status of disk ODD is already normal (INPSDODDN).                                                                              |
| z  | = The process manager (PMGR) error code when y = 00.                                                                                                  |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The partition mounting kernel process (PMKP) mounts the administrative module (AM) encore ODD disk partition /dev/no5aodd1; the disk ODD is a raw partition and does not require mounting. The process for loading ODD into protected application segment (PAS) (PLOP) then loads the encore ODD from the no5odd/cpdata file into the AM CU PAS. The PLOD then loads the disk ODD from one disk partition to another working copy disk partition. At this point, the recent change roll forward (RCRF) process is creating to begin applying the recent change (RC) log files to the encore and disk AM ODDs. This PRM is printed by the application integrity monitor (AIM) when the disk office dependent data (DODD) is not available for recent change. There are two basic types of AM ODD: encore ODD and disk ODD. Disk ODD is used for information that is not frequently used in order to conserve the use of AM encore memory. Disk ODD is sometimes used for call processing (for example, authorization codes); therefore its loss can be call affecting.

## 6. CORRECTIVE ACTION

Operators should attempt to start up PLOD by typing in the following input message: EXC:ENVIR:UPROC,FN "/no5text/prc/plod"; (found in the Input Messages manual, 235-600-700).

**PRM:EExx-C900****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda C900 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor's (AIM) request to initialize Data delivery has returned a failure.

**3. FUNCTION**

Fail to initialize data delivery in an AM initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

C900 = Application function [DDgpinit()].

z = Data delivery return code. Valid values are:

fff9 = DDBADBUF, bad buffer type in DDkeyinfo table.

fffa = DDREPEAT, reschedule work done under deferred trigger mechanism.

|       |                                                                                 |
|-------|---------------------------------------------------------------------------------|
| ffffb | = DDNOMATCH, no matching SM for range and/or type. Valid values are: DDwrite(). |
| fffc  | = DDFAILURE, general failure return from a DD primitive.                        |
| fffd  | = DDBADDATA, invalid data parameter.                                            |
| fffe  | = DDBADACC, invalid access key.                                                 |
| ffff  | = DDBADPCR, invalid processor key.                                              |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM requested to initialize data delivery in an AM initialization and received a return code which was not success.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-CA00****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda CA00 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Application integrity monitor (AIM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

CA00 = Application function [administrative module (AM) processor switch].

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An unconditional switch of the AM processors has been requested by the application maintenance fault recovery code. A soft switch has failed because the off-line processor was not standby. A hard switch of the processors and/or an initialization will follow.

## **6. CORRECTIVE ACTION**

There is potentially a hardware problem with critical application peripheral hardware [that is, office network and timing complex (ONTC), message switch (MSGS), common network interface (CNI)] that will not function on this AM processor side; also, the off-line AM is out-of-service. Hardware and software inhibits may be required if the upcoming initialization fails. Investigate known hardware problems that preceded this event.



**PRM:EExx-CB00****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda CB00 xxxx yyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

AIM operating system application process initialization failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system specified in variable d.

CB00 = Application function (AIM killable process initialization failure).

x = Operating system application process utility ID.

0017 = First-in first-out (FIFO) driver (FDA).

00C0 = Input/output driver (IODRV).

|      |                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 00C2 | = Scan and signal distributor administration (SCSD).                                                                                                   |
| 0117 | = Plant measurement database monitor (PLDMON).                                                                                                         |
| 0186 | = Operating system kernel lockout monitor kernel process (KLMON).                                                                                      |
| 0188 | = Operating system supervisor overload monitor process (SUOVPRC).                                                                                      |
| 0406 | = Process to load ODD onto disk (PLOD).                                                                                                                |
| 0407 | = Application data link (APDL).                                                                                                                        |
| 0410 | = Switch maintenance kernel process (SMKP).                                                                                                            |
| 0411 | = Switch maintenance power switch monitor (SMPSM).                                                                                                     |
| 0420 | = Communications kernel process (CMKP).                                                                                                                |
| 0430 | = Message switch kernel process (MSKP).                                                                                                                |
| 0450 | = Pump control (PUCR).                                                                                                                                 |
| 0455 | = Recent change kernel process (RCKP, not valid in 5E6 and beyond).                                                                                    |
| 0460 | = Operational kernel process (OKP).                                                                                                                    |
| 047A | = Ring monitor (RINGMON).                                                                                                                              |
| 04E4 | = Common network interface initialization (CNIINIT).                                                                                                   |
| 0590 | = Process for loading ODD into PAS (PLOP).                                                                                                             |
| 0710 | = Switch maintenance diagnostic input message processor (SMDIMP). SMDIMP is also referred to as deferred maintenance administrator and monitor (DMAM). |
| 07DD | = Automatic message accounting disk writer 1 (AMDW1).                                                                                                  |
| 07CE | = Automatic message accounting disk writer 2 (AMDW2).                                                                                                  |

y = Failed process sequence state. Valid values are:

|    |                                      |
|----|--------------------------------------|
| 00 | = Created (booted from disk).        |
| 01 | = Software initialization.           |
| 02 | = Hardware initialization.           |
| 03 | = Communication link initialization. |
| 04 | = Enable fault recovery.             |
| 05 | = Essential jobs operational.        |
| 06 | = Fully operational.                 |
| 07 | = Aborting.                          |

- z = Reason for failure. Valid values are:
- 0b = initialization time limit exceeded.
  - 0c = initialization sequence state failed or timed out (INSEQSTFL).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The AIM process produces this PRM when a killable process reports the failure of an initialization sequence state, or when a killable process times out while initializing.

## 6. CORRECTIVE ACTION

The killable process that failed should be re-initialized manually.

**PRM:EExx-CC00****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda CC00 zzzz 0000 hh hh hh

**2. PRM SOURCE**

Common channel signaling initialization (CCSINIT).

**3. FUNCTION**

CCSINIT killable operating system application process abort limit exceeded.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

CC00 = Application function (CCSINIT killable process abort limit exceeded).

z = Operating system application process utility ID.

0479 = Common channel signaling initialization (CCSINIT).

047A = Ring monitor (RINGMON).

04E4 = Common network interface initialization (CNIINIT).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CCSINIT produces this PRM when a killable process has aborted and been re-created the maximum allowable number of times. Usually, when such aborts occur, the process will be automatically re-created. However, the maximum abort limit is exceeded, this PRM is printed.

## 6. CORRECTIVE ACTION

CNI should be re-initialized manually (for example, `INIT:CNI,FI`). The INIT:CNI input message can be found in the Input Messages manual, 235-600-700.

**PRM:EExx-CCCC****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da CCCC CCCC CCCC hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Common channel signaling (CCS) call processing is now available.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

CCCC = Application function (CCS call processing up).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This PRM is printed in real time directly to the emergency action interface (EAI) and the receive-only printer (ROP) (that is, it is not queued like most of the other PRMs). At this point, the operator should verify that CCS call processing is indeed on.

**NOTE:** this PRM assumes that the switching modules (SMs) are available for call processing and that this is not a dead start situation. Also, all CCS signaling links might not be in-service at this time; PRM:EE-711x will indicate CCS link availability.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-CD0x****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p EE da CD0w xxxx yyzz hh hh hh

**2. PRM SOURCE**

Comman channel signaling (CCS) initialization kernel process (CCSINIT).

**3. FUNCTION**

CCSINIT initialization failure during common network interface (CNI) Level-3 [foundation peripheral controller (FPI)] or Level-4 [facility interface (FI)] initialization caused by a child process sequence state failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = CNI initialization level. Valid values are:

3 = FPI (Level-3).

4 = FI (Level-4).



|      |                                                                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x    | = Utility identification (ID) of the child process that was to have been created. Valid values are:                                                   |
| 0000 | = CNIINIT (Change when correct utility ID is found).                                                                                                  |
| 047A | = Ring monitor (RINGMON).                                                                                                                             |
| y    | = Sequence state of the failed child process. Valid values are:                                                                                       |
| 01   | = Creation.                                                                                                                                           |
| 02   | = Software initialization.                                                                                                                            |
| z    | = Reason for failure. Valid values are:                                                                                                               |
| 0b   | = Time out in the sequence state.                                                                                                                     |
| 0c   | = Child reported sequence state failure.                                                                                                              |
| 0d   | = Child process aborting.                                                                                                                             |
| h    | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM is put out by the CCSINIT process when the FPI or FI initialization fails because of a failed child process sequence state.

## 6. CORRECTIVE ACTION

The CCSINIT should be initialized manually using the INIT:CNI input message in the Input Messages manual, 235-600-700, or an emergency action interface (EAI) poke.

**PRM:EExx-CE00****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda CE00 zzzz 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

AIM killable operating system application process abort limit exceeded.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

CE00 = Application function (AIM killable process abort limit exceeded).

z = Operating system application process utility ID.

0188 = Operating system supervisor overload monitor process (SUOVPRC).

0411 = Switch maintenance power switch monitor (SMPSM).

|      |                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0450 | = Pump control (PUCR).                                                                                                                                 |
| 0451 | = Automatic message accounting disk writer (AMDW).                                                                                                     |
| 0479 | = CCSINIT [not valid in 5E10 and later].                                                                                                               |
| 047A | = Ring monitor (RINGMON).                                                                                                                              |
| 04E4 | = Common network interface initialization (CNIINIT).                                                                                                   |
| 0710 | = Switch maintenance diagnostic input message processor (SMDIMP). SMDIMP is also referred to as deferred maintenance administrator and monitor (DMAM). |
| 07DD | = Automatic message accounting disk writer 1 (AMDW1).                                                                                                  |
| 07CE | = Automatic message accounting disk writer 2 (AMDW2).                                                                                                  |
| h    | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.  |

## 5. EXPLANATION

The AIM process produces this PRM when a killable process has aborted and been re-created the maximum allowable number of times (as specified in AIM's Sldapinfo[] table). This PRM usually pertains only to processes that are killable and that can be aborted without causing escalation to an AM-wide initialization. However, if the software inhibits are on, it can also apply to killable essential processes (for example, CNIINIT, RINGMON). Usually, when such aborts occur, the process will be automatically re-created. However, when the maximum abort limit is exceeded, this PRM is printed.

## 6. CORRECTIVE ACTION

Check that the associated disk files are available (refer to the APP:AM-PROCESS appendix in the Appendixes section of the PRM manual. for the full disk path names and associated shared libraries). The process that failed should be re-initialized manually. Refer to input message INIT:AM-FPI in the Input Messages manual, 235-600-700, which is available for the following AIM child processes: SMpsm, pucr, amdwl, amdwl2, apdl, SMDimp, RINGMON. Also refer to input message INIT:CNI in the Input Messages manual to initialize CNIINIT and RINGMON.

**PRM:EExx-CF00****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda CF00 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

SPY facility initialization failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

CF00 = Application function (SPY facility initialization failure).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The SPY facility could not be initialized successfully [that is, `spy_kinit()` failed]. The SPY facility is used to monitor process dispatches in operational kernel process (OKP), switch maintenance kernel process (SMKP), and message switch kernel process (MSKP).

## **6. CORRECTIVE ACTION**

None. These PRMs are informational only.

**PRM:EExx-DDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p EEda DDuw xxyy yzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) or any other application process attached to the AIM port.

**3. FUNCTION**

Disk data [previously known as all-seems-well (ASW) function].

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Source of initialization. Valid values are:

1 = Maintenance interrupt.

0 = Phase.

w = How the maintenance reset function (MRF) method was initiated. Valid values are:

|             |                                                                                                                                                       |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| A           | = Non-manually.                                                                                                                                       |
| 0           | = Manually.                                                                                                                                           |
| x           | = Last two hexadecimal digits of the sequence number that is part of post mortem dump.                                                                |
| y           | = Boot device <i>n</i> status, where <i>n</i> is an odd-numbered MHD in the range H'1 through H'F. Valid values are:                                  |
| BD <i>n</i> | = Boot device <i>n</i> active.                                                                                                                        |
| 000         | = Boot device <i>n</i> not active.                                                                                                                    |
| z           | = Boot device <i>n</i> status, where <i>n</i> is an even-numbered MHD in the range H'0 through H'E. Valid values are:                                 |
| BD <i>n</i> | = Boot device <i>n</i> active.                                                                                                                        |
| 000         | = Boot device <i>n</i> not active.                                                                                                                    |
| h           | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM is generated when this process (step) has successfully completed execution. This PRM is generated by the system integrity monitor (SIM) on behalf of the process (step) upon receipt of a SUCCESS SINITSTAT message.

**NOTE:** SINITSTAT is boot process initialization response message type. Processes making up the boot image must send a message of this type to SIM upon completion of the initialization. This message contains the status of the initialization: SUCCESS, FAIL or FONLY.

SIM, upon receipt of a SINITSTAT message, will generate an ASW PRM on behalf of the sending process. If an application process, attached to the AIM port, sends SIM a SINITSTAT message, an ASW PRM will be produced for it as well.

**NOTE:** SIM only generates an ASW PRM for the first SINITSTAT message sent by a process, unless a subsequent message contains only a message header. An ASW PRM will be generated upon receipt of a message containing only a message header. In order for an ASW PRM to be generated, the SINITSTAT message must be received within the first 30 seconds of the boot interval.

## 6. CORRECTIVE ACTION

None.

**PRM:EExx-E100****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da E100 07F9 0000 hh hh hh

**2. PRM SOURCE**

Retrofit.

**3. FUNCTION**

APPLHOOK unexpected death. Refer to the OP:GEN-READLOG output message in the Output Messages manual, 235-600-750, for more information about the APPLHOOK process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

E100 = Application function (APPLHOOK unexpected death).

07F9 = APPLHOOK utility ID.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## **5. EXPLANATION**

On 42!S!54 or 42!R!54 high-level administrative module (AM) initializations, APPLHOOK is created and subsequently dies as a part of the retrofit procedures. In this case, however, APPLHOOK died prematurely. Nevertheless, it should be automatically re-created unless it has previously died too many times.

## **6. CORRECTIVE ACTION**

Consult the Software Release Retrofit manual, 235-105-24x (where 'x' is the release-specific version of the manual) for additional information.

**PRM:EExx-EEEE****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda EEEE EEEE EEEE hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Non-common channel signaling (CCS) call processing is now available.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

EEEE = Application function [switch maintenance kernel process (SMKP) has completed initialization of the communication links during an AM initialization with a hardware level of 3 or 4. The ability to process calls was temporarily interrupted by the AM/CM initialization and has now resumed provided that there is no hardware in duplex failure.]. Refer to the note in the Explanation section. PRM\_p EEda CCCC CCCC CCCC hh hh hh will be printed when CCS call processing is restored.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**NOTE:** Two different but similar versions of this PRM exist. This one is generated by an application process and the other one is generated by the operating system. Distinction can be made by comparing the `d` and `a` variables (`PRM_p EE da EEEE EEEE`) of the two versions. The application process version of `d` and `a` contains numbers and the operating system version contains the letters `EE` in the `d` and `a` variables. Please read the other PRM description, for PRM:EEEE-EEEE, if this one doesn't seem to apply in your case.

## 5. EXPLANATION

This PRM is printed in real time directly to the emergency action interface (EAI) and the receive-only printer (ROP) (that is, it is not queued like most of the other PRMs).

**NOTE:** This PRM assumes that the switching modules (SMs) are available for call processing, that there is no hardware in duplex failure, that no processes have failed to initialize due to inhibiting the software checks and that this is not a dead start situation.

## 6. CORRECTIVE ACTION

None. These PRMs are informational only.

**PRM:EExx-F0xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda F0xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Partition mounting kernel process (PMKP).

**3. FUNCTION**

Failure when mounting the no5text or the no5odd disk partitions, or a failure to create the application integrity monitor (AIM) kernel process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

F0 = Application function (PMKP failure).

x = Failure code for the specified error encountered. Valid values are:

01 = Unable to allocate operating system message buffer.

02 = Unable to find segment identification (ID) for segment containing oddmntcmd.

|   |      |                                                                                                                                                                                                                  |
|---|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | 03   | = Unable to queue an operating system message.                                                                                                                                                                   |
|   | 04   | = Acknowledgment message from file manager or process manager indicates an error.                                                                                                                                |
|   | 05   | = Unable to lock a segment into memory for I/O.                                                                                                                                                                  |
|   | 06   | = Received a message with an unknown field.                                                                                                                                                                      |
|   | 07   | = PMKP was faulted.                                                                                                                                                                                              |
|   | 08   | = Received a message which was not an acknowledgment message.                                                                                                                                                    |
| y |      | = Additional data pertaining to the failure. The meaning of this data will differ for each failure code. When <i>w</i> is 04, it contains the error code received in the message.                                |
| z |      | = Additional data pertaining to the failure. The meaning of this data will differ for each failure code. When <i>w</i> is 04, it contains the ID field of the acknowledgment message received. Valid values are: |
|   | 0001 | = no5text mount request message.                                                                                                                                                                                 |
|   | 0002 | = open AIMRC file request message.                                                                                                                                                                               |
|   | 0003 | = open AIMRCTMP file request message.                                                                                                                                                                            |
|   | 0004 | = read AIMRC (or AIMRCTMP) file request message.                                                                                                                                                                 |
|   | 0005 | = no5odd mount request message.                                                                                                                                                                                  |
|   | 0006 | = AIM creation request message.                                                                                                                                                                                  |
|   | 0007 | = close AIMRC (or AIMRCTMP) file request message.                                                                                                                                                                |
| h |      | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.                                                            |

## 5. EXPLANATION

This PRM is printed to report that PMKP has encountered an error. PMKP is the very first application process that is created during an operating system high level initialization (D2-D4). It is created by operating system after all boot image processes have been booted in and initialized. PMKP is on the operating system PCREATE list and is located in the /prc partition. PMKP mounts the /notext and the /no5odd disk partitions and creates the AIM kernel process. AIM is also located in the /prc partition but all its shared libraries are in the /no5text/prc partition.

## 6. CORRECTIVE ACTION

If *w* is 04, use the error code in the message to determine the nature of the failure; use the ID value to determine what was being done when the failure occurred; and check the disk files, directories and partitions, that are required to perform the failing step, exist in their proper locations.

**PRM:EExx-FF02****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF02 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

AIM process requests an administrative module (AM) phase [using a system integrity software inconsistency macro (ASSERT) call].

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = AM software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF02 = Application function [switch phase trigger (AIM ASSERT)].

z = ASSERT code (hexadecimal) indicating the problem which triggered the phase request. These ASSERT codes are documented in the 5ESS<sup>®</sup> Switch Asserts Manual, 235-600-500, and also on the following pages.

| HEX | SYMBOL | ASSERT DESCRIPTION |
|-----|--------|--------------------|
|-----|--------|--------------------|

|     |               |                                                                                                                                                                                                              |
|-----|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2BC | SIINVEV       | AIM received an event that is invalid.                                                                                                                                                                       |
| 2BD | INBMS_STAT    | Bad ms_stat in message incoming to AIM.                                                                                                                                                                      |
| 2BE | SIBMS_TYPE    | Bad ms_type in input message to AIM.                                                                                                                                                                         |
| 2BF | SIBIN_TYPE    | Bad in_type passed to INactrl() in AIM.                                                                                                                                                                      |
| 2C0 | SIBDSI_TYPE   | Bad si_type in operating system utility message (refer to si/INdumsg.h).                                                                                                                                     |
| 2C1 | SIBSI_TYPE    | Bad si_type in initialization utility message (refer to db/MGinumt.h).                                                                                                                                       |
| 2C2 | SIBTYPE       | Bad OSDS message type in incoming message to AIM.                                                                                                                                                            |
| 2C3 | INSMKPFF      | Failure encountered when faulting SMKP.                                                                                                                                                                      |
| 2C4 | INBPUCRPORT   | Failure to get PUCRs PID from its port ID.                                                                                                                                                                   |
| 2C5 | SIFASRTMSG    | Assert "library" failed when trying to send assert failure data to AIM. A special event is reserved in AIM for this purpose. This is probably an operating system message buffer overload problem.           |
| 2C6 | INBAIMPORT    | AIM encountered a failure when attempting to attach to its port. AIM will request a D2/S6 (operating system level 2) initialization.                                                                         |
| 2C7 | INBCMCKPACK   | AIM received a failure acknowledgment from CMKP when it attempted to attach to its slot for OSDS communication. AIM will request a D2/S6 (operating system level 2) initialization.                          |
| 2C8 | INBOSDSPORT   | AIM encountered a failure when attempting to get OSDS's process ID from its port ID.                                                                                                                         |
| 2C9 | INBTIMER      | AIM received a failure acknowledgment from the prtimer() operating system primitive when trying to attach to its repetitive timer. AIM will request a D2/S6 (operating system level 2) initialization.       |
| 2CA | INITTIMEOUT   | Init time allowance has been exceeded without AIM receiving success indication from essential components.                                                                                                    |
| 2CB | SIFAULTED     | The AIM process was faulted by the operating system. The saved state & active message buffer (if any) are dumped to the stack for the ASSERT printout. An internal AIM recovery and restart will be invoked. |
| 2CC | INBAPPLVL     | Invalid application initialization level indicated in AIM's private data.                                                                                                                                    |
| 2CD | INDUPII       | Redundant initialization progress message received.                                                                                                                                                          |
| 2CE | INMSGUNE      | Unexpected message of the type used for the system initialization message from SIM. The message buffer will be dumped to the stack for the ASSERT printout.                                                  |
| 2CF | INAMFAIL      | Operating system audit manager is not responding properly to AIM's request.                                                                                                                                  |
| 2D0 | INBCMCKPPORT  | Failure attempting to get CMKP's process ID from its port ID.                                                                                                                                                |
| 2D1 | SIBMS_SUBTYPE | Bad ms_subtype in message incoming to AIM.                                                                                                                                                                   |
| 2D2 | I3BCOMMPORT   | AIM encountered a failure when attempting to get the process ID of the process that handles communication with OSDS environment from a port ID.                                                              |
| 2D3 | ST_OSDSFAIL   | AIM's tight loop detector detected an absence of activity in OSDS-C while under control of the OSDS operating system.                                                                                        |
| 2D4 | ST_RCVYFAIL   | AIM's tight loop detector detected an absence of activity in OSDS-C while under control of SICO recovery.                                                                                                    |
| 2D5 | INSANFAIL     | AIM failed to attach properly to sanity timer provided by SIM.                                                                                                                                               |
| 2D6 | INPMGRAFAIL   | Process manager failed to create essential process.                                                                                                                                                          |
| 2D7 | IMBMS_TYPE    | Bad ms_type routed to IMactrl() in AIM.                                                                                                                                                                      |
| 2D8 | IMBIN_TYPE    | Bad in_type parameter passed to IMactrl() in AIM.                                                                                                                                                            |
| 2D9 | IM_LOOPCNT    | AIM activity counter for OKP had what seemed to be a wild written value in it.                                                                                                                               |
| 2DA | IM_OSDSMODE   | AIM activity check encountered an invalid OSDS mode in OKP.                                                                                                                                                  |
| 2DB | INSICOTCREQ   | AIM received indication that SICO requested a D2 initialization.                                                                                                                                             |
| 2DC | SIOSDSFF      | AIM encountered a failure when faulting OSDS.                                                                                                                                                                |
| 2DD | INIT_FLT      | AIM was faulted during a system initialization.                                                                                                                                                              |
| 2DE | SIAMSGFAULT   | AIM was faulted while processing an incoming message.                                                                                                                                                        |
| 2DF | SI_NO_SDE     | AIM was faulted indicating no segment descriptor entries.                                                                                                                                                    |
| 2E0 | SI_NO_DCT     | AIM was faulted indicating no dispatcher control tables.                                                                                                                                                     |
| 2E1 | SI_KLOCK      | AIM faulted indicating that the AM was experiencing a kernel level lockout. AIM will request an operating system level 1 initialization.                                                                     |
| 2E2 | IN_SINIT_TO   | AIM timed out waiting for initialization message from SIM after an operating system level 1 initialization.                                                                                                  |
| 2E3 | INUNSUPPSEQ   | Application Process in an invalid sequence state.                                                                                                                                                            |
| 2E5 | INBSEQSTATE   | Application process has an invalid sequence state or a value that is not consistent with the data stored in Sldapdata[].                                                                                     |
| 2E6 | SIBDAPID      | The dapid, which is used as an index into Sldapdata[], was passed to AIM                                                                                                                                     |

|     |                |                                                                                                                                                                                                                                                                                 |
|-----|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                | with an invalid value.                                                                                                                                                                                                                                                          |
| 2E7 | INBADPORT      | AIM was unable to get the process number of an operating system application. process which is critical to the system. AIM will request an D2/S6 (operating system level 2) AM initialization.                                                                                   |
| 2E8 | INFAULTFAIL    | AIM received a failure return when it tried to send a fault to an operating system application process. AIM will request a D2/S6 (operating system level 2) initialization.                                                                                                     |
| 2E9 | SIBOSTCODE     | AIM received an invalid OST.                                                                                                                                                                                                                                                    |
| 2EA | INNOTRIG       | Operating system returned a failure return code either from allocmsg() or queuem() when AIM was trying to send an initialization trigger message. AIM will request a D2/S6 (operating system level 2) initialization.                                                           |
| 2EB | SITMSGBUF      | AIM failed in getting an operating system message buffer to send the message to SIM to tell SIM to perform sanity timing on AIM. AIM will request an operating system level 1 initialization.                                                                                   |
| 2EC | SITMSGQUE      | AIM failed in queuing an operating system message buffer when sending the message to SIM to tell SIM to perform sanity timing on AIM. AIM will request an operating system level 1 initialization.                                                                              |
| 2ED | SITADDTSK      | AIM failed in setting up its internal timing used to time for SIM's acknowledgment of AIM's request for SIM to perform sanity timing of AIM. AIM will request an operating system level 1 initialization.                                                                       |
| 2EE | SITINITFAIL    | AIM received an indication from SIM that AIM's request for SIM to perform a sanity timer function on AIM has been denied. AIM will request an operating system level 1 initialization.                                                                                          |
| 2EF | SITADDRES      | AIM failed in setting up its internal timing used to satisfy SIM's sanity timing requirements on AIM. AIM will request an operating system level 1 initialization when this occurs.                                                                                             |
| 2F0 | SITPRMBUF      | AIM got a failure return from allocmsg() when it tried to get an operating system message buffer to send a message to SIM to print out a PRM.                                                                                                                                   |
| 2F1 | SITPRMQUE      | AIM got a failure return from queuem() when it tried to queue an operating system message buffer to send a message to SIM to print out a PRM.                                                                                                                                   |
| 2F2 | SITTSKACT      | AIM's task timer encountered an active task that was marked as being inactive.                                                                                                                                                                                                  |
| 2F3 | SITRESET       | AIM received a failure return when it tried to send its sanity event to SIM using the sendevent() primitive. AIM will perform an operating system level 1 initialization as a result of this assert.                                                                            |
| 2F4 | SITTSKTYP      | A task timer block has an invalid task number in the task field. AIM uses task timers for internal timing, and the task field specifies the job being timed. For debugging, one of the assert stack frame dumps contains the complete task timer block that was found in error. |
| 2F5 | SITINITTIMEOUT | AIM failed to receive an acknowledgment from SIM to its request to have SIM perform sanity timing on AIM. AIM will perform an operating system level 1 initialization as a result of this assert.                                                                               |
| 2F6 | SIINVREQINIT   | AIM received an invalid parameter from INREQINIT() macro.                                                                                                                                                                                                                       |
| 2F7 | SIDDWERR       | AIM received a failure return code from DDwrite() primitive.                                                                                                                                                                                                                    |
| 2F8 | INBSOURCE      | AIM encountered an invalid value in the "source" field of the initialization message received from SIM.                                                                                                                                                                         |
| 2FA | INBOTYPE       | AIM encountered an unrecognizable value in the ms_otype field of an incoming message.                                                                                                                                                                                           |
| 2FB | IMSOSDSMODE    | AIM activity check encountered an invalid OSDS mode in SMKP.                                                                                                                                                                                                                    |
| 2FC | IMSLOOPCNT     | AIM activity counter for SMKP had what seemed to be a wild written value in it.                                                                                                                                                                                                 |
| 2FD | INNOMSGBUF     | AIM could not get a message buffer from the operating system to send a message to CMKP to perform an open to a slot for OSDS communication.                                                                                                                                     |
| 2FE | INSNDFTLFAIL   | sendfault() failed to send FLT_SINIT (SIGTERM signal) to an operating system display administration process (DAP).                                                                                                                                                              |
| 2FF | INSNDEVTFAIL   | sendevent() failed to send E_ABORT event to a killable non-operating system DAP.                                                                                                                                                                                                |
| 300 | SIINVINIT      | An automatic operating system level 0 initialization occurred. Operating system level 0 should only occur when manually requested from the EAI. The message buffer for the system initialization message will be dumped                                                         |



|     |              |                                                                                                                                                                                                                                                                                     |
|-----|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |              | to the stack for the ASSERT printout.                                                                                                                                                                                                                                               |
| 301 | SIAPPLPARM   | Default case in switch on application parameter in function INsysmsg(). Indicates internal software insanity. The message buffer for the system initialization message will be dumped to the stack for the ASSERT printout.                                                         |
| 302 | SIINVMSG     | Invalid message in function Slinhmsg(). Message buffer is dumped to stack for ASSERT printout.                                                                                                                                                                                      |
| 303 | INECDFAIL    | AIM failed to attach to the equipment configuration database (ECD).                                                                                                                                                                                                                 |
| 304 | INCONFIGFAIL | AIM failed to open the CONFIG shared library.                                                                                                                                                                                                                                       |
| 305 | SIINVRET     | AIM received invalid return code from the Slcpside() primitive in the function Slaswcp().                                                                                                                                                                                           |
| 306 | SICONFIGFAIL | CONFIG library primitive failed during AM switch attempt.                                                                                                                                                                                                                           |
| 307 | SIUNCONDFAIL | Failure of unconditional switch of AM sides.                                                                                                                                                                                                                                        |
| 308 | SIINVOSTFAIL | Invalid parameter passed with Slswcp() OST primitive.                                                                                                                                                                                                                               |
| 309 | SITMRINACT   | The flag used for the Slholdtite() primitive was found to be set without a timer for it being active. The flag was cleared.                                                                                                                                                         |
| 30A | SITMROVFLOW  | The counter used for the Slholdtite() primitive was found to have an out of range value. The counter was zeroed.                                                                                                                                                                    |
| 30B | SIAMDWFAIL   | AIM was unable to get the dapid of the AMDW process when it received a report message from the AMcptepls process in OKP.                                                                                                                                                            |
| 30C | INPMCOMFAIL  | AIM was unable to send a P_CREAT message to the PMGR.                                                                                                                                                                                                                               |
| 30D | SIALOCFAIL   | AIM was unable to allocate an operating system message buffer.                                                                                                                                                                                                                      |
| 30E | SIQMFFAIL    | AIM failed to queue an operating system message.                                                                                                                                                                                                                                    |
| 30F | INBADSEQST   | A sequence state was encountered by AIM which either is invalid or is not consistent with the data stored in Sldapdata[].                                                                                                                                                           |
| 310 | SIBADPARAM   | Illegal application parameter passed to function Slinh_admin().                                                                                                                                                                                                                     |
| 311 | SIOVRSTIMER  | The timer could not be allocated using Slatimer() to limit the duration for an operating system message overload condition. Without this timer, output message volume may be seriously limited.                                                                                     |
| 312 | SIFLOWERR    | An inconsistency was detected internal to a function.                                                                                                                                                                                                                               |
| 313 | SIBADTTY     | Invalid TTY message ID was received by AIM. Message buffer is dumped in ASSERT printout.                                                                                                                                                                                            |
| 314 | INTMTOUT     | A timeout occurred for AIM to kill a DAP using a message to the operating system scheduler. A operating system level 1 initialization will be requested.                                                                                                                            |
| 315 | INSYSMSGFAIL | AIM timed out waiting to receive the system initialization message from SIM. An operating system level 1 initialization will be requested.                                                                                                                                          |
| 316 | SINOTSKBLK   | There were no free task blocks to schedule a timer in AIM even after a demand audit. An internal AIM recovery and restart will be invoked.                                                                                                                                          |
| 317 | SISMKPFAIL   | AIM was unable to obtain SMKP's operating system process ID to send a message to SMARS to inhibit or allow hardware checks.                                                                                                                                                         |
| 318 | SIDBRDERR    | Indicates erroneous data in relation RLMODATT for a given SM. In function INactrl(), or in Slinh_admin(), an unsuccessful return from the DBfrdtup() primitive causes this assertion. If the "offset" value obtained from RLMODATT is out of range, an assertion will also be made. |
| 319 | SIDDRDERR    | Indicates erroneous DDREAD data in DDRSMISOL for a given HSM [refer to INactrl()/Slinh_admin()].                                                                                                                                                                                    |
| 31A | INFPTOUT     | Init forward progress timers timed-out.                                                                                                                                                                                                                                             |
| 3B5 | SIASTAUD     | Previous ASSERT caused an internal recovery and AIM restart.                                                                                                                                                                                                                        |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report the failure specified by the ASSERT code in variable z.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual (235-105-250).

**PRM:EExx-FF03****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF03 yyyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Failure of the process manager (PMGR) to create an essential process for AIM.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF03 = Switch application phase trigger (PMGR essential process creation failure).

y = Operating system application process utility identification (ID).

0017 = FIFO driver (FDA).

00C0 = Input/output driver kernel process (IODRV).

|      |                                                                                                                                                                                                                                                                                                                                                 |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 00C2 | = Scan and signal distributor administration (SCSD).                                                                                                                                                                                                                                                                                            |
| 0117 | = Plant measurement database monitor (PLDMON).                                                                                                                                                                                                                                                                                                  |
| 0186 | = Kernel lockout monitor kernel process (KLMON).                                                                                                                                                                                                                                                                                                |
| 0410 | = Switch maintenance kernel process (SMKP).                                                                                                                                                                                                                                                                                                     |
| 0420 | = Communications kernel process (CMKP).                                                                                                                                                                                                                                                                                                         |
| 0430 | = Message switch kernel process (MSKP).                                                                                                                                                                                                                                                                                                         |
| 0455 | = Recent change kernel process (RCKP).                                                                                                                                                                                                                                                                                                          |
| 0460 | = Operational kernel process (OKP).                                                                                                                                                                                                                                                                                                             |
| 047A | = CNl ring monitor kernel process (RINGMON).                                                                                                                                                                                                                                                                                                    |
| 04E4 | = Common network interface initialization kernel process (CNIINIT).                                                                                                                                                                                                                                                                             |
| z    | = PMGR failure code. Refer to "UNIX® RTR PMGR error codes" in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual or convert from hexadecimal to decimal and consult the REPT:PMGR output message in the Output Messages manual, 235-600-750, for an explanation. If z = 000A, AIM is timed out waiting for a PMGR response. |
| h    | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.                                                                                                                                                                                           |

## 5. EXPLANATION

AIM prints this PRM to report that it was unable to create an essential process.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery, go into the operating system minimum configuration. Using the process manager error code and the process identity, check that the disk files necessary for process creation are in their correct directory locations and contain the correct header information.

If this fails to correct the problem, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF05****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF05 xxxx yyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

AIM essential operating system application process initialization failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF05 = Switch application phase trigger (essential process initialization failure).

x = Operating system application process utility identification (ID). Valid values are:

0017 = FIFO driver (FDA).

00C0 = Input/output driver kernel process (IODRV).

|      |                                                      |
|------|------------------------------------------------------|
| 00C2 | = Scan and signal distributor administration (SCSD). |
| 0117 | = Plant measurement database monitor (PLDMON).       |
| 0186 | = Kernel lockout monitor kernel process (KLMON).     |
| 0410 | = Switch maintenance kernel process (SMKP).          |
| 0420 | = Communications kernel process (CMKP).              |
| 0430 | = Message switch kernel process (MSKP).              |
| 0455 | = Recent change kernel process (RCKP).               |
| 0460 | = Operational kernel process (OKP).                  |
| 047A | = CNI ring monitor kernel process (RINGMON).         |
| 04E4 | = CNI initialization kernel process (CNIINIT).       |

y = Failed process sequence state. Valid values are:

|    |                                      |
|----|--------------------------------------|
| 00 | = Created (booted from disk).        |
| 01 | = Software initialization.           |
| 02 | = Hardware initialization.           |
| 03 | = Communication link initialization. |
| 04 | = Enable fault recovery.             |
| 05 | = Essential jobs operational.        |
| 06 | = Fully operational.                 |
| 07 | = Aborting.                          |

z = Success/failure indication. Valid values are:

|    |                                |
|----|--------------------------------|
| 01 | = Initialization step failed.  |
| 02 | = Initialization step timeout. |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

An essential application process has failed to initialize successfully by either calling INcomplete() indicating a failure or by timing out.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no

initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF06****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF06 xxxx yyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

AIM essential operating system application process initialization timeout.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Operating system application process utility identification (ID). Valid values are:

0017 = FIFO driver (FDA).

00C0 = Input/output driver kernel process (IODRV).

00C2 = Scan and signal distributor administration (SCSD).



|      |                                                  |
|------|--------------------------------------------------|
| 0117 | = Plant measurement database monitor (PLDMON).   |
| 0186 | = Kernel lockout monitor kernel process (KLMON). |
| 0410 | = Switch maintenance kernel process (SMKP).      |
| 0420 | = Communications kernel process (CMKP).          |
| 0430 | = Message switch kernel process (MSKP).          |
| 0455 | = Recent change kernel process (RCKP).           |
| 0460 | = Operational kernel process (OKP).              |
| 047A | = CNI ring monitor kernel process (RINGMON).     |
| 04E4 | = CNI initialization kernel process (CNIINIT).   |

y = Failed process sequence state. Valid values are:

|    |                                      |
|----|--------------------------------------|
| 00 | = Created (booted from disk).        |
| 01 | = Software initialization.           |
| 02 | = Hardware initialization.           |
| 03 | = Communication link initialization. |
| 04 | = Enable fault recovery.             |
| 05 | = Essential jobs operational.        |
| 06 | = Fully operational.                 |
| 07 | = Aborting.                          |

z = Process run state. Valid values are:

|    |                                                     |
|----|-----------------------------------------------------|
| 00 | = Process was still performing initialization step. |
| 01 | = Process had completed initialization step.        |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that initialization of an essential process failed to complete within the allotted time.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF07****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF07 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Switch maintenance kernel process (SMKP) initialization progress timeout.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF07 = Switch application phase trigger (SMKP initialization progress timeout).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM when an SMKP initialization progress timeout occurs. SMKP did not send a progress PRM to AIM within ten seconds.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an AM-wide D1 initialization. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF08****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF08 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Operational kernel process (OKP) initialization progress timeout.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF08 = Switch application phase trigger (OKP initialization progress timeout).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM when an OKP initialization progress timeout occurs. OKP did not send a progress PRM to AIM within ten seconds.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an AM-wide D1 initialization. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF09****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF09 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Switch maintenance kernel process (SMKP) detected lack of initialization progress.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF09 = Switch application phase trigger (SMKP detected lack of initialization progress).

z = Value of SMKP's recovery counter (IMsrcvycnt).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report an SMKP-detected lack of initialization forward progress.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an AM-wide D1 initialization. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.



**PRM:EExx-FF0A****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF0A 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Operational kernel process (OKP) detected lack of initialization progress.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF0A = Switch application phase trigger (OKP detected lack of initialization progress).

z = Value of OKP's recovery counter (IMrcvycnt).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report an OKP-detected lack of initialization forward progress.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an AM-wide D1 initialization. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF0D****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF0D yyyz zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

AIM detected a lack of activity in a kernel process during normal operation of the administrative module (AM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = AM software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF0D = AIM is taking recovery from kernel level lockout.

y = Utility ID of failing process. If the utility ID is zero variable z will indicate that the fault was from system integrity monitor (SIM) or an expired recovery timer.

z = 20 low order bits of address of failing process in hexadecimal except for the following. Valid values are:

|      |                                                                                     |
|------|-------------------------------------------------------------------------------------|
| FFFD | = The fault threshold was exceeded and no processes were successfully faulted.      |
| FFFE | = The fault was from SIM overload control, not from lockout detection and recovery. |
| FFFF | = The fault resulted from an expired lockout recovery timer.                        |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM when it takes action on kernel process lockout at one of several priority levels. That is, no kernel process which executes at that level or below has had access to the central processing unit (CPU) for some time. Also refer to the description of PRM:EExx-68xx.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a single-process purge (SPP) or full process initialization (FPI). If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no high-level initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF0E****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF0E 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected lack of communications to all switching modules (SMs) during normal operation of the administrative module (AM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = AM software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF0E = Switch application phase trigger (lack of communications to all SMs).

z = Number of 5-second intervals between the detection of all communication links down and the requesting of the AM initialization.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report that OKP IM has detected a loss of communication to all SMs.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

This situation may be a symptom of duplex failure of the message switch (MSGs) or the office network and timing complexes (ONTC).

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF0F****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF0F 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected an excessive number of E-bit continuity failures.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF0F = Switch application phase trigger (excessive E-bit continuity failures).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM just before requesting an AM phase due to an OKP IM-detected excessive E-bit continuity failures. If the HW/SW inhibits are off, this PRM will be followed immediately by a high-level AM initialization. If the inhibits are on, no initialization will occur; however, the system will not have essential functionality.

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.



**PRM:EExx-FF10****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF10 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) message control blocks (MCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF10 = Switch application phase trigger (SMKP MCB exhaustion).

z = Elapsed time in milliseconds during which no MCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that SMKP IM has detected OSDS MCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF11****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF11 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) timing control blocks (TCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF11 = Switch application phase trigger (SMKP TCB exhaustion).

h = Elapsed time in milliseconds during which no TCBs were available and none could be recovered.

z = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that SMKP IM has detected OSDS TCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF12****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF12 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity Monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) message control blocks (MCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF12 = Switch application phase trigger (OKP MCB exhaustion).

h = Elapsed time in milliseconds during which no MCBs were available and none could be recovered.

z = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report that OKP IM has detected OSDS MCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF13****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF13 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) timing control blocks (TCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF13 = Switch application phase trigger (OKP TCB exhaustion).

z = Elapsed time in milliseconds during which no TCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report that OKP IM has detected OSDS TCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.



**PRM:EExx-FF14****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF14 xxyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The system integrity control (SICO) operating system for distributed switching (OSDS) process within the operational kernel process (OKP) has allowed software escalation of OKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF14 = Switch application phase trigger (OKP SICO software escalation).

x = Cause of the software escalation. Valid values are:

0A = Asserts.

0F = Operating system fault.

y = OSDS operational mode (IMOSDSMODE). Valid values are:

01 = Init not yet begun.

02 = Normal mode.

03 = OSDS post recovery.

04 = SICO directed recovery.

05 = Safe interval.

z = Valid values are:

| If "x" = | "z" =                                                           |
|----------|-----------------------------------------------------------------|
| 0A       | The assert code (in hexadecimal) that triggered the escalation. |
| 0F       | The operating system fault code.                                |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that the SICO process has allowed OKP software escalation.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a full process initialization (FPI). If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

Look up the appropriate assert code or operating system fault code to determine what, if any, action should be taken. Assert codes can be found in the Asserts Manual, 235-600-500. Operating system fault codes can be found in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual, "UNIX® RTR Operating System Error Codes".

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF15****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF15 xxyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The switch maintenance system integrity control (SMICO) operating system for distributed switching (OSDS) process within the switch maintenance kernel process (SMKP) has allowed software escalation of SMKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF15 = Switch application phase trigger (SMKP SMICO software escalation).

x = Cause of the software escalation. Valid values are:

0A = Asserts.

0E = Full process initialization (FPI) failure.

0F = Operating system fault.

y = OSDS operational mode (IMOSDSMODE). Valid values are:

01 = Init not yet begun.

02 = Normal mode.

03 = OSDS post recovery.

04 = SMICO directed recovery.

05 = Safe interval.

z = Valid values are:

| If "x" = | "z" =                                                                        |
|----------|------------------------------------------------------------------------------|
| 0A       | The assert code (in hexadecimal) that triggered the escalation.              |
| 0E       | <p>0000 = SMininit_data() failed.</p> <p>0001 = AUSiec() recorded error.</p> |
| 0F       | Operating system fault code.                                                 |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that the SMICO process has allowed SMKP software escalation.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

Look up the appropriate assert code or operating system fault code to determine what, if any, action should be taken. Assert codes can be found in the Asserts Manual, 235-600-500. Operating system fault codes can be found in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual, "UNIX® RTR Operating System Error Codes".

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF16****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF16 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Switch maintenance kernel process (SMKP) abort counter overflow.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF16 = Switch application phase trigger (SMKP abort counter overflow).

z = Abort counter value at the time of the overflow.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report an SMKP abort counter overflow.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF17****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF17 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

OSSENDMSG() failed during an administrative module (AM) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF17 = Switch application phase trigger [OSSENDMSG() failure during SMKP initialization].

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The operating system for distributed switching (OSDS) primitive OSSENDMSG() returned a failure indication when called in the switch maintenance kernel process (SMKP) during an AM initialization. The initialization cannot complete successfully.

If AM software checks are allowed, AIM will immediately trigger a new AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.



**PRM:EExx-FF18****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF18 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase Trigger.

**3. FUNCTION**

OSTIMER() failed during an administrative module (AM) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF18 = Switch application phase trigger [OSTIMER() failure during SMKP initialization].

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The operating system for distributed switching (OSDS) primitive OSTIMER() returned a failure indication when called in the switch maintenance kernel process (SMKP) during an AM initialization. The initialization cannot complete successfully.

If AM software checks are allowed, AIM will immediately trigger a new AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF19****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da FF19 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The switch maintenance system integrity control (SMICO) operating system for distributed switching (OSDS) process within the switch maintenance kernel process (SMKP) monitor fault recovery (FR) activity counter overflowed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF19 = Switch application phase trigger (SMKP SMICO FR activity monitor counter overflow).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report an overflow of the fault recovery activity counter maintained by the SMICO process in SMKP.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

Try manually inhibiting communication module hardware checks. Try forcing different combinations of message switch (MSGs) and office network and timing complex (ONTc).

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF1A****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF1A 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Directed audit exceeded time limit.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF1A = Switch application phase trigger (directed audit exceeded time limit).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A directed audit is run in an operating system for distributed switching (OSDS) environment [that is, the switch maintenance kernel process (SMKP) or operational kernel process (OKP)] to correct an error in a critical data structure (for example, an idle link list). Such an audit was run and it exceeded the timeout interval.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF1B****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF1B www xyz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Essential operating system application process full process initialization (FPI) timeout.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the FPI threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF1B = Switch application phase trigger (essential process FPI timeout).

w = Operating system application process utility ID. Valid values are:

0017 = FIFO driver (FDA).

00C0 = Input/output driver (IODRV).

|      |                                                      |
|------|------------------------------------------------------|
| 00C2 | = Scan and signal distributor administration (SCSD). |
| 0117 | = Plant measurement database monitor (PLDMON).       |
| 0186 | = Kernel level overload monitor (KLMON).             |
| 0410 | = Switch maintenance kernel process (SMKP).          |
| 0420 | = Communications kernel process (CMKP).              |
| 0430 | = Message switch kernel process (MSKP).              |
| 0455 | = Recent change kernel process (RCKP).               |
| 0460 | = Operational kernel process (OKP).                  |
| 047A | = Ring monitor (RINGMON).                            |
| 04E4 | = Common network interface initialization (CNIINIT). |

x = Failed process sequence state. Valid values are:

|   |                                      |
|---|--------------------------------------|
| 0 | = Created (booted from disk).        |
| 1 | = Software initialization.           |
| 2 | = Hardware initialization.           |
| 3 | = Communication link initialization. |
| 4 | = Enable fault recovery.             |
| 5 | = Essential jobs operational.        |
| 6 | = Fully operational.                 |
| 7 | = Aborting.                          |

y = Run state. Valid values are:

|   |              |
|---|--------------|
| 0 | = Running.   |
| 1 | = Step done. |

z = Error code. Valid values are:

|    |                           |
|----|---------------------------|
| 21 | = Initialization timeout. |
|----|---------------------------|

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION



AIM prints this PRM to report that it was unable to successfully complete an essential process FPI. The FPI, also known as an "S5" initialization, failed because of a timeout.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF1C****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF1C 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Automatic escalation of an operating system D1 initialization (that is, 51) to a high-level initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF1C = Switch application phase trigger (automatic escalation of D1 to high-level initialization).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM just before escalating an operating system D1 initialization to a high-level initialization (S6 or S7). This happens when a D1 interrupts a high-level initialization before it has completed its critical work.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF1E****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF1E yyyy 000z hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

AMcptelps requested a conditional or unconditional full process initialization (FPI) of an automatic message accounting disk writer (AMDW) kernel process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF1E = Application function (AMDW FPI request).

y = Valid values are. Valid values are:

07DD = Automatic message accounting disk writer 1 (AMDW1) kernel process.

07CE = Automatic message accounting disk writer 2 (AMDW2) kernel process.

- z = Requested type of FPI. Valid values are:
- 0 = Unconditional FPI. AMcptelps received a specified number of "invalid syntax" write responses from the disk writer.
  - 1 = Conditional FPI (if threshold is exceeded). AMcptelps received an error response from the disk writer as a result of a write request or status query.
  - 2 = Unconditional FPI (if no port attached), else conditional FPI. Message communication between AMcptelps and the disk writer has failed. Either AMcptelps could not send a message to the disk writer, or the disk writer did not respond to a status query message.
  - 3 = Unconditional FPI of all AMDW process equipped in office.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The AMcptelps process is experiencing communication problems with an AMDW process. It therefore has sent a message to AIM requesting that a conditional or unconditional FPI of the specified AMDW process be performed.

## 6. CORRECTIVE ACTION

Monitor billing to determine if it is functional.

**PRM:EExx-FF1F****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF1F www xyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Operating system application process full process initialization (FPI) request.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the FPI threshold has not yet been reached (refer to the EXPLANATION section).

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF1F = Switch application phase trigger (FPI request).

w = Operating system application process utility ID. Valid values are:

0017 = FIFO driver kernel process (FDA).

00C0 = Input/output driver kernel process (IODRV).

|      |                                                                            |
|------|----------------------------------------------------------------------------|
| 00C2 | = Scan and signal distributor administration (SCSD).                       |
| 0117 | = Plant measurement database monitor (PLDMON).                             |
| 0186 | = Kernel level overload monitor (KLMON).                                   |
| 0188 | = Operating system supervisor overload monitor process (SUOVPRC).          |
| 0406 | = Process for loading office dependent data [ODD] onto disk (PLOD).        |
| 0407 | = Attached Processor data link (APDL).                                     |
| 0410 | = Switch maintenance kernel process (SMKP).                                |
| 0411 | = Switch maintenance power switch monitor (SMPSM).                         |
| 0420 | = Communications kernel process (CMKP).                                    |
| 0430 | = Message switch kernel process (MSKP).                                    |
| 0450 | = Pump control (PUCR).                                                     |
| 0451 | = Automatic message accounting disk writer kernel process (AMDW).          |
| 0460 | = Operational kernel process (OKP).                                        |
| 047A | = Ring monitor kernel process (RINGMON).                                   |
| 04E4 | = Common network interface initialization kernel process (CNIINIT).        |
| 0590 | = Process for loading ODD into protected application segment (PAS) (PLOP). |
| 0710 | = Switch Maintenance Diagnostic Input Message Processor (SMDIMP).          |
| 07DD | = Automatic message accounting disk writer 1 kernel process (AMDW1).       |
| 07CE | = Automatic message accounting disk writer 2 kernel process (AMDW2).       |

x = Failed process sequence state. Valid values are:

|   |                                      |
|---|--------------------------------------|
| 0 | = Created (booted from disk).        |
| 1 | = Software initialization.           |
| 2 | = Hardware initialization.           |
| 3 | = Communication link initialization. |
| 4 | = Enable fault recovery.             |
| 5 | = Essential jobs operational.        |
| 6 | = Fully operational.                 |
| 7 | = Aborting.                          |

y = Run state. Valid values are:

0 = Running.

1 = Step done.

z = Error code. Valid values are:

20 = INcomplete() failure or timeout (S5 or lower).

22 = A manual request was made using the INIT:AM-FPI input message. Refer to the Input Messages manual, 235-600-700.

23 = Process manager (PMGR) death of child message received.

24 = FPI re-try requested on process that failed during AM initialization.

25 = Abort threshold exceeded, attempt to restart common channel signaling (CCS) in 15 minutes.

26 = CM-only init failure.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report a request to perform a FPI on the specified operating system application process. This level of initialization is also known as an "S5" initialization.

If the FPI was not manually requested, AIM may select a more severe recovery action based on the state of the system and the extent of previous recovery attempts. If the number of attempted FPIs exceeds a threshold and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.



**PRM:EExx-FF20****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF20 yyyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Failure to load office-dependent data (ODD) into the protected application segment (PAS) of administrative module (AM) main memory. AIM uses the process manager (PMGR) to create the operating system application kernel process for loading ODD into PAS (PLOP) to perform this function.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = AM software checks are inhibited. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF20 = Switch application phase trigger (PLOP failure to load ODD).

y = Valid values are:

0001 = No message buffers available for PMGR message to create PLOP.

|      |                                                                                                                                                                                                                                          |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0002 | = AIM failed to queue PLOP P_CREAT message to the PMGR.                                                                                                                                                                                  |
| 0003 | = PMGR failed with error code (variable <i>z</i> ) to create PLOP.                                                                                                                                                                       |
| 0004 | = PLOP died before completing the loading of ODD into PAS.                                                                                                                                                                               |
| 0101 | = PLOP was faulted with fault code <i>z</i> .                                                                                                                                                                                            |
| 0102 | = PLOP failed to get a valid capability number from the FMGR (error code <i>z</i> ) while trying to open the ODD file.                                                                                                                   |
| 0103 | = PLOP was unable to find a memory segment <i>z</i> within its address space. This problem is most commonly caused by the upper PAS being too small to fit the ODD; PAS size is specified in the equipment configuration database (ECD). |
| 0104 | = PLOP failed while trying to read the ODD file.                                                                                                                                                                                         |
| 0105 | = ODD file magic number <i>z</i> is invalid.                                                                                                                                                                                             |
| 0106 | = The size of the ODD exceeds the maximum PAS ODD size.                                                                                                                                                                                  |
| 0107 | = ODD section name in the ODD file is invalid.                                                                                                                                                                                           |
| 0108 | = The virtual starting address <i>z</i> of the ODD section in the ODD file does not match the starting address for ODD in PAS.                                                                                                           |
| 0109 | = PLOP encountered an internal error where the starting address for a read from disk was not on a word boundary.                                                                                                                         |
| 0110 | = Bad number of bytes for reading (not a multiple of 64).                                                                                                                                                                                |
| 0111 | = PLOP failed to lock a segment into memory.                                                                                                                                                                                             |
| 0112 | = Size of acknowledgment message received is different than expected.                                                                                                                                                                    |
| 0113 | = Move blocks of memory (MVB) failed.                                                                                                                                                                                                    |
| 0114 | = PLOP internal error (invalid state).                                                                                                                                                                                                   |
| 0115 | = PLOP took longer than 20 seconds to reload the ODD.                                                                                                                                                                                    |

*z*

= Valid values are:

| If " <i>w</i> " = | " <i>z</i> " =                                                                                                                           |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 0003              | PMGR error code. Refer to "UNIX® RTR PMGR error codes" in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual.        |
| 0101              | Operating system fault code. Refer to "UNIX® RTR fault codes" in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual. |
| 0102, 0104        | FMGR error code. Refer to "UNIX® RTR FMGR error codes" in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual.        |
| 0103, 0108        | Virtual address segment index.                                                                                                           |
| 0105              | ODD file magic number.                                                                                                                   |
| 0111              | State of the segment.                                                                                                                    |

*h*

= Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report a failure to load ODD into PAS.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

Look up the appropriate PMGR error code, *UNIX*® RTR fault code, or FMGR error code (if specified) in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual. Check that the PLOP process pfile and the ODD (/no5odd/cpdata/cpodd.out) files are in their correct disk directory locations and that they have the correct header information in them.

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF21****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF21 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Failure to get AIM's process number from portid.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF21 = Switch application phase trigger (AIM port to process number failure).

z = Utility ID of AIM's process (it should be 0400).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report a failure to get AIM's process number from the portid (PT\_AIM = 15).

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF22****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF22 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Lack of integrity monitor (IM) activity in the switch maintenance kernel process (SMKP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF22 = Switch application phase trigger (lack of SMKP IM activity).

z = ID of integrity monitor activity that failed (IMmismchk).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report a lack of integrity monitor activity in SMKP.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF23****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF23 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Lack of integrity monitor (IM) activity in the operational kernel process (OKP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF23 = Switch application phase trigger (lack of OKP IM activity).

z = ID of integrity monitor activity that failed (IMimcpchk).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## **5. EXPLANATION**

AIM prints this PRM to report a lack of integrity monitor activity in OKP.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF24****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF24 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Lack of call processing activity in the operational kernel process (OKP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF24 = Switch application phase trigger (lack of OKP call processing activity).

z = Number of 5-second intervals for which call processing was locked out.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report a lack of call processing activity in OKP.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF25****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF25 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) process control blocks (PCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF25 = Switch application phase trigger (SMKP PCB exhaustion).

z = Elapsed time in milliseconds during which no PCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that SMKP IM has detected OSDS PCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF26****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF26 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) process control blocks (PCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF26 = Switch application phase trigger (OKP PCB exhaustion).

z = Elapsed time in milliseconds during which no PCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that OKP IM has detected OSDS PCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF27****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF27 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) stack control blocks (SCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF27 = Switch application phase trigger (SMKP SCB exhaustion).

z = Elapsed time in milliseconds during which no SCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## 5. EXPLANATION

AIM prints this PRM to report that SMKP IM has detected OSDS SCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF28****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF28 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) stack control blocks (SCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF28 = Switch application phase trigger (OKP SCB exhaustion).

z = Elapsed time in milliseconds during which no SCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report that OKP IM has detected OSDS SCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF2D****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF2D www xyz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Common network interface (CNI) ring initialization request phase trigger.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited or the full process initialization (FPI) threshold has not yet been reached. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF2D = Switch application phase trigger (CNI initialization request).

w = Operating system application process utility ID.

047A = Ring monitor kernel process (RINGMON).

04E4 = Common network interface initialization (CNIINIT) kernel process.

x = Process sequence state. Valid values are:

- 0 = Created (booted from disk.)
- 1 = Software initialization.
- 2 = Hardware initialization.
- 3 = Communication link initialization.
- 4 = Enable fault recovery.
- 5 = Essential jobs operational.
- 6 = Fully operational.
- 7 = Aborting.

y = Run state. Valid values are:

- 0 = Running.
- 1 = Step done.

z = Error code. Valid values are:

- 01 = CNIINIT abort request using an operating system event.
- 02 = RINGMON abort request using an operating system trap (OST).
- 03 = CNIINIT too much progress (process must be crazy).
- 04 = *UNIX*<sup>®</sup> RTR Operating System primitive sendevent() failed to RINGMON.
- 05 = RINGMON death of child message received.
- 06 = RINGMON initialization request using CCreqinit() OST primitive.
- 07 = Manual C1-C4 initialization request using the INIT:CNI input message. Refer to the Input Messages manual, 235-600-700, for more information.
- 08 = Manual 42!L!50 or 42!L!51 requested to enter CNI minimum mode (MIN MODE) using a C4.
- 09 = Manual 42!N!50 or 42!N!51 requested to exit CNI minimum mode (MIN MODE) using a C4.
- 10 = Process manager (PMGR) death of child message received for a CCS process.
- 11 = Unsolicited CNIINIT begin full process initialization request.
- 12 = CNIINIT critical initialization failure using an operating system event.
- 13 = Unsolicited CNIINIT begin C1 request.

20 = INcomplete() S5 initialization failure or timeout using INdapinit().

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report a request (manual or automatic) to perform an initialization of CNIINIT and/or RINGMON at a specified CNI initialization level. If the FPI threshold is exceeded on an automatic request, and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no high-level initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF64****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF64 yyyy zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

AIM has purged the pump control (PUCR) process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF64 = Application function (purge of the PUCR process).

y = This is the utility ID of the process that was purged, in hexadecimal.

z = This is the utility ID of the process that requested the purge, in hexadecimal.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The integrity monitor process in OKP has found that a pump is not making any progress. An operating system trap (OST) was sent to AIM. AIM will purge PUCR to restart the pump processes.

**6. CORRECTIVE ACTION**

None. This PRM is for information only.



**PRM:EExx-FF80****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF80 0000 000z hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Switch maintenance kernel process (SMKP) peripheral configuration data (PCD) inconsistency.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF80 = Switch application phase trigger (SMKP PCD inconsistency).

z = Reason for AM initialization failure. Valid values are:

1 = Office network and timing complex (ONTC) database problem.

2 = Failure to initialize simplex in-service ONTC.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The status of all communication module (CM) hardware is stored in the PCD. This PRM reports that SMKP was unable to determine the active major ONTC (based on the PCD) prior to performing a CM initialization. This problem can be caused by catastrophic hardware problems or loss of power in the AM and CM. A hardware level escalation to H4 is required to resolve the problem.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF81****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EE da FF81 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Switch maintenance kernel process (SMKP) peripheral configuration data (PCD) initialization was unable to obtain essential information from the office-dependent data (ODD) in the protected application segment (PAS) in administrative module (AM) main memory.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF81 = Switch application phase trigger (SMKP ODD access failure or inconsistency).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report an ODD problem detected during initialization of the PCD in SMKP. The status of all communication module (CM) hardware is stored in the PCD. The following problems will generate this PRM:

- (1) SMKP cannot read the RLSPC, RLSCORE, RLSNCREF, or RLNLNKTMS relation.
- (2) The RLSPC relation contains no equipped module message processor (MMP) or communication module processor (CMP).
- (3) The RLNLNKTMS relation contains no equipped network control and timing (NCT) links.
- (4) The Glcm0vint or Glcm1vint global parameter contains an invalid CM vintage value.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF82****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF82 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Time multiplex switch (TMS) fault recovery duplex failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF82 = Switch application phase trigger (TMS duplex failure).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM to report a TMS fault recovery duplex failure. The duplex failure may be due to either a hardware or power problem.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF83****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF83 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Foundation peripheral controller (FPC) fault recovery duplex failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF83 = Switch application phase trigger (FPC duplex failure).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM to report a FPC fault recovery duplex failure. The duplex failure may be due to either a hardware or power problem.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.



**PRM:EExx-FF84****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF84 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Message switch control unit (MSCU) fault recovery duplex failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF84 = Switch Application phase trigger (MSCU duplex failure).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM to report a MSCU fault recovery duplex failure. The duplex failure may be due to either a hardware or power problem.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF87****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF87 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Communication module processor (CMP) fault recovery duplex failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF87 = Switch application phase trigger (CMP duplex failure).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM to report a CMP fault recovery duplex failure. The duplex failure may be due to either a hardware or power problem.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF88****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF88 sstu wxyz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

AIM report of a switch maintenance kernel process (SMKP) initialization failure, probably caused by communication module (CM) hardware or related software.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF88 = Switch application phase trigger (SMKP initialization failure).

s = Failed SMKP sequence state. Valid values are:

00 = Created (booted from disk).

01 = Software initialization.

- 02 = Hardware initialization.
- 03 = Communication link initialization.
- 04 = Enable fault recovery.
- 05 = Essential jobs operational.
- 06 = Fully operational.

t = Initialization step failure code. Valid values are:

- 1 = SMKP acknowledged failure.
- 2 = AIM timed out on SMKP completion.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 results. Same options as variable w.

y = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 results. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report an SMKP initialization failure. The most likely cause is a duplex failure of CM hardware, possibly due to a power problem. This PRM reports the status of the different CM hardware units, to help determine if there is any bad hardware.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:EExx-FF99****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p EEda FF99 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Excessive software errors in the message switch kernel process (MSKP).

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

E = Administrative module (AM) software checks are inhibited. Refer to the EXPLANATION section.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF99 = Switch application phase trigger (excessive MSKP software errors).

z = Failing address in MSKP.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.



## **5. EXPLANATION**

AIM prints this PRM to report that an excessive number of software errors have occurred in MSKP.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**15. F0xx-0000 — F0xx-FFFF**

**PRM:F0xx-080x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 080z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - Unable to initialize the path to disk file controller 0 (DFC 0) in a bootstrap.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Installation sequence number. This number corresponds to the step number listed under **CORRECTIVE ACTION**. However, if z equals 0, then the sequence number is not reported.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Microboot failed to initialize the path of communication to DFC 0.

## 6. CORRECTIVE ACTION

Several steps under this PRM are executed to initialize the path.

- Step 0      The sequence number has not been provided. The failure occurred during one of the following steps.
- Step 1      Initialize the direct memory access I/O bus (DIO) for a bootstrap: First, a clear error pulse is sent to direct memory access controller 0 (DMAC 0). Then, a DMAC initialization command is sent to DMAC 0. If that works, then a clear error pulse is sent to all channels; that is, dual serial channels (DSCHs) 11 through 14.
- Next, the same procedure is followed for DMAC 1 and DSCHs 16 through 19. Sending the pulse to all channels can be done by loading the channel address register (CAR) with all 1's. However, addressing multiple channels causes an I/O addressing error in the common channel (CC) error register (ER). This error is immediately cleared.
- Step 2      This step will write all initialization code to clear the channel "busy" indicator in the DMAC. Next, a "DSCH initialization" command is sent to the primary DSCH (the DSCH for the selected boot device). The command will contain a mask value to allow service requests to enter the DSCH from the primary boot device. The final action in this step is to write the mask register in the primary DMAC to allow interrupts from the primary channel.
- Step 3      Two commands are sent to the duplex dual serial bus selector (DDSBS) to clear it and make it operational.

If any of these steps fail, this PRM is printed with the Step number in variable d.

Failure during Steps 1 and 2 primarily implicate the control unit (CU). First, force the other CU to boot. Next, if the other CU does not recover, power cycle this CU and then clear the emergency action interface (EAI) forces.

Failure during Step 3 primarily implicates the DDSBS [located in the disk file controller (DFC)]. First, use the EAI options to force DFC 1 to boot. Next, if DFC 1 does not recover, power cycle DFC 0 and then clear the EAI forces.

If this PRM continues to print, replace the faulty equipment.

**PRM:F0xx-0900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 0900 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - direct memory access controller (DMAC) setup failed using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Microboot failed to set up the random access memory (RAM) words in the DMAC. The first word written is DMAC RAM word 1 which contains the number of 16-word blocks to be transferred with this job. The value actually written is the 2s complement of the number of 16-word blocks described in the previous sentence.

The second word written is DMAC RAM word 3. Word 3 is the main store transfer address for this disk job.

The third and last word written to the DMAC RAM memory is RAM word 2 which is the pointer to the page tables. The page table entries were created by microboot and map all virtual addresses used for this disk transfer to the same physical main store address.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that the above job had an error.

## **6. CORRECTIVE ACTION**

Suspect the hardware described under **EXPLANATION**: Failure to set up the DMAC for DMA jobs primarily implicates the CU. First, force the other CU to boot. Next, if the other CU does not recover, replace the DMAC in this CU and then clear the emergency action interface (EAI) forces.

**PRM:F0xx-0A0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 0A0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - initialization of the bus interface controller (BIC) in disk file controller 0 (DFC 0) failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The dual serial channel (DSCH) 3-out-of-6 code is loaded into the channel address register (CAR) and an initialize BIC command is loaded into the channel data register (CDR). This command is sent to DFC 0 and executed.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show an error occurred in the above job.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) options to force DFC 1 to boot. Next, if DFC 1 fails to recover, power cycle DFC 0 and clear the EAI forces. If this failure continues, replace the peripheral interface controller (PIC). Next, if this failure continues, replace the BIC. Next, if this failure continues, replace the duplex dual serial bus selector (DDSBS).

The PIC, BIC, and DDSBS are different circuit packs in the SMD DFC. The BIC and the PIC are circuits within the host adapter circuit pack in the SCSI-DFC.



**PRM:F0xx-0B0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 0B0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job initialization of the peripheral interface controller (PIC) in disk file controller 0 (DFC 0) failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The dual serial channel (DSCH) 3-out-of-6 code is loaded into the channel address register (CAR), and an initialize PIC command is loaded into the channel data register (CDR). The command is sent to DFC 0.

This PRM is printed when the input/output (I/O) flags in the hardware status register show that an error occurred in the above job. This command is sent to the bus interface controller (BIC).

## **6. CORRECTIVE ACTION**

The problem could be in the PIC, BIC, or duplex dual serial bus selector (DDSBS). First use the emergency action interface (EAI) options to force DFC 1 to boot. Next, if DFC 1 fails to recover, power cycle DFC 0 and clear the EAI forces. If this failure continues, replace the PIC. Next, if this failure continues, replace the BIC. Finally, if this failure continues, replace the DDSBS.

The PIC, BIC, and DDSBS are different circuit packs in the SMD DFC. The BIC and the PIC are circuits with the host adapter circuit in the SCSI-DFC.

**PRM:F0xx-0C0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 0C0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - DFC "boot" command failed using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The dual serial channel (DSCH) 3-out-of-6 code is loaded into the channel address register (CAR) and the DFC "boot" command is loaded into the channel data register (CDR). The command is sent to the DFC. This command starts the transfer of the VTOC from disk to main store.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that an error has occurred.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) option to force DFC 1 to boot. Next, make sure the disk is powered up and if recent maintenance activity was performed that it was done properly (cables not loose, correct ID plugs, and so forth). Finally, if these steps fail to resolve the problem, try a different disk.

**PRM:F0xx-0D0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 0D0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - read VTOC disk job timed out using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The central control (CC) microcode has waited 2 seconds for an interrupt from the DFC indicating job completion. The CC microcode waited for bit 10 in the interrupt source (IS) register to become active as the indication of an interrupt from the DFC.

## 6. CORRECTIVE ACTION

First, use the emergency action interface (EAI) to force DFC 1 to boot. Next, make sure the disk is powered up and if recent maintenance activity was performed that it was done properly (cables not loose, correct ID plugs used, and so forth). Next, if DFC 1 fails to recover, clear the EAI forces. Finally, if these steps fail to resolve the problem, try a different system disk. If this failure continues, replace the peripheral interface controller (PIC).

The PIC is a circuit pack in the SMD DFC. The PIC is a circuit within the host adapter circuit in the SCSI-DFC.

**PRM:F0xx-0E0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 0E0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - read VTOC disk job errors using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The central control (CC) microcode has received the interrupt from the DFC and must determine if the job completed successfully.

The CC microcode attempts to clear the job completion interrupt in the bus interface controller (BIC) of the DFC. Then the interrupt is cleared in the CU.

Status words are read from both the BIC and DFC. If either status word indicates an error, or, the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job, then this PRM is printed and the CU executes a maintenance reset function (MRF).

## 6. CORRECTIVE ACTION

First, use the emergency action interface (EAI) to force different DFC and CU combinations. If this PRM is reported from both CUs (that is, both `PRM_0 F0da 0E0z...` and `PRM_1 F0da 0E0z...` print), the problem could be caused by a hardware fault in the DFC.

If the same PRM is reported from one CU and both DFCs (that is, both `PRM_1 F0da 0E0z...` and `PRM_1 F0da 4E0z...` print), the problem could be caused by a hardware fault in the direct memory access controller (DMAC) or dual serial channel (DSCH).

If the same PRM is reported from both CUs and both DFCs (that is, both `PRM_x F0da 0E0z...` and `PRM_x F0da 4E0z...` print), the problem could be caused by stray interrupts from other devices connected to the DSCH.

Try replacing the various implicated circuit packs. In the case of possible stray interrupts, use the EAI to force a boot configuration and power down unneeded units that are connected to the DSCH [for example, one input/output processor (IOP) and the other DFC].



**PRM:F0xx-0F0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 0F0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - read VTOC disk job successful using disk file controller 0 (DFC 0) but it does not have a little boot partition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

y = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The central control (CC) microcode examines the VTOC entries and searches for the primary little boot partition. Since the VTOC was read successfully, the failure to find the little boot partition probably indicates this disk is not a

system disk or the disk has been damaged.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) to force DFC 1 to boot. If this fails to resolve the problem, try a different system disk. You can use a warm (plugged in) or cold (not plugged in) spare system disk. Or, you can build a new system disk using load disk from tape (LDFT).

**PRM:F0xx-100x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 100z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - extract information from volume table of contents (VTOC) for disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Microboot has read the VTOC and found the little boot (lboot) partition entry. It will extract the information in the lboot entry (which is now in main memory) and determine the following:

- The size of the lboot file (v\_lsize).
- The size of the lboot partition (v\_nblks).
- The size of the writable microcode portion of the partition (v\_nblks minus v\_lsize).
- The starting disk block of the lboot file (v\_startblk).
- The starting disk block of the writable microcode (v\_startblk plus v\_lsize).
- the main memory physical address to load the lboot (v\_load).

If any of the above steps fail, then this PRM is printed.

## 6. CORRECTIVE ACTION

The information has already been loaded into main memory and no disk jobs are performed; therefore, the implicated hardware is the CU. First, use the emergency action interface (EAI) options to force the other CU to boot. Next, if the other CU does not recover, power cycle this CU and clear the EAI forces.

If this CU is still printing this PRM and the DFC 1 version of the PRM (that is, PRM\_p F0da 500z ...) is also printing, then replace the hardware indicated in one of the following exhibit, depending on the administrative module hardware present in your switch:

| Administrative Module | Action:                                                                                                                                                                                                                                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3B20D                 | Replace the following hardware in this order until the problem is corrected: <ol style="list-style-type: none"> <li>(1) Main storage controller (MASC).</li> <li>(2) Data manipulation unit (DMU).</li> <li>(3) Store address control (SAC).</li> <li>(4) Module control unit (MCU).</li> <li>(5) Main store update (MSU).</li> </ol> |
| 3B21D                 | Replace the main memory (MM). If this does not correct the problem, replace the CC.                                                                                                                                                                                                                                                   |

**PRM:F0xx-110x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 110z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - direct memory access controller (DMAC) setup failed using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Microboot failed to set up the random access memory (RAM) words in the DMAC. The first word written is DMAC RAM word 1 which contains the number of 16-word blocks to be transferred with this job. The value actually written

is the 2s complement of the number of 16-word blocks described in the previous sentence.

The second word written is DMAC RAM word 3. Word 3 is the main store transfer address for this disk job.

The third and last word written to the DMAC RAM memory is RAM word 2 which is the pointer to the page tables. The page table entries were created by microboot and maps all virtual addresses used for this disk transfer to the same physical main store address.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that the above job had an error.

## **6. CORRECTIVE ACTION**

Failure to setup the DMAC for direct memory access (DMA) jobs primarily implicates this CU. First, use the emergency action interface (EAI) to force the other CU to boot. Next, if the other CU does not recover, replace the DMAC in this CU and clear the EAI forces.

**PRM:F0xx-140x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 140z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - DFC "boot" command failed using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The dual serial channel (DSCH) 3-out-of-6 code is loaded into the channel address register (CAR), and DFC "boot" command is loaded into the channel data register (CDR). The disk address of a microcode block is contained in the

command. The command is sent to the DFC. This command starts the transfer of writable microcode from disk to main store.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface option to force DFC 1 to boot. Next, if DFC 1 fails to recover, power cycle DFC 0 and clear the EAI forces. If the failure continues, replace the peripheral interface controller (PIC). Next, if the failure continues, replace the bus interface controller (BIC). Finally, if the failure continues, replace the duplex dual serial bus selector (DDSBS).

The PIC, BIC, and DDSBS are different circuit packs in the SMD DFC. The BIC and the PIC are circuits within the host adapter circuit pack in the SCSI-DFC.



**PRM:F0xx-150x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 150z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - read microcode disk job timed out using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The CC microcode has waited 2 seconds for an interrupt from the DFC indicating job completion. The CC microcode was waiting for bit 10 in the interrupt source (IS) register to become active as the indication of an

interrupt from the DFC.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) option to force DFC 1 to boot. Next, if DFC 1 fails to recover, power cycle DFC 0 and clear the EAI forces. If the failure continues, replace the peripheral interface controller (PIC). Next, if the failure continues, replace the bus interface controller (BIC). Finally, if this failure continues, replace the duplex dual serial bus selector (DDSBS).

The PIC, BIC, and DDSBS are different circuit packs in the SMD DFC. The BIC and the PIC are circuits within the host adapter circuit pack in the SCSI-DFC.

**PRM:F0xx-160x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 160z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - read microcode disk job errors using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The CC microcode has received the interrupt from the DFC and must determine if the job completed successfully.

The CC microcode attempts to clear the job completion interrupt in the bus interface controller (BIC) of the DFC. Then the interrupt is cleared in the CU.

Status words are read from both the BIC and DFC. If either status word indicates an error, or the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job, then this PRM is printed and the CU executes a maintenance reset function (MRF).

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) option to force the other CU to bootstrap. If the same failure occurs, the implicated hardware [peripheral interface controller (PIC) and BIC] is in DFC 0. Therefore, use the EAI option to select DFC 1.

Otherwise, if this CU causes both this PRM and the DFC 1 PRM (that is, PRM\_p F0da 560d ...) to print, suspect the direct memory access controller (DMAC) or dual serial channel (DSCH) hardware. In this case, try to boot from the other CU.

**PRM:F0xx-170x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 170z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - bad CC microcode file from disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The CC writable microcode file has been read from disk. The first 32 bits of the microcode file contain a key word used to insure that the file is a valid writable microcode file.

The file is not a valid writable microcode file.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) options to force DFC 1 to boot. Next, make sure the disk is powered up and if recent maintenance activity was performed that it was done properly (cables not loose, correct ID plugs, and so forth). Next, if these steps fail to resolve the problem, try a different disk.

**PRM:F0xx-180x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 180z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - little boot job - error while preparing to read little boot file from disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

After reading the writable microcode from the little boot partition, the microboot program will read the little boot program into mainstore. This PRM indicates a problem at the beginning of the procedure prior to the direct memory access (DMA) setup.

## **6. CORRECTIVE ACTION**

Use the emergency action interface (EAI) option to force DFC 1 to boot. If the PRM continues to print, try a different system disk. You can use a warm (plugged in) or cold (not plugged in) spare system disk. Or, you can build a new system disk using load disk from tape (LDFT).



**PRM:F0xx-190x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 190z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - little boot job - direct memory access controller (DMAC) setup failed using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Microboot failed to set up the random access memory (RAM) words in the DMAC. The first word written is DMAC RAM word 1 which contains the number of 16-word blocks to be transferred with the job. The value actually written is the 2s complement of the number of 16-word blocks described above.

The second word written is DMAC RAM word 3. Word 3 is the main store transfer address for this disk job.

The third and last word written to the DMAC RAM memory is RAM word 2 which is the pointer to the page tables. The page table entries were created by microboot and map all virtual addresses used for this disk transfer to the same physical main store address.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job.

## **6. CORRECTIVE ACTION**

Failure to setup the DMAC for DMA jobs primarily implicates this CU. First use the emergency action interface (EAI) options to force the other CU to boot. Next, if the other CU does not recover, replace the DMAC in this CU and clear the EAI forces.

**PRM:F0xx-1C0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 1C0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - little boot job - DFC "boot" command failed using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The dual serial channel (DSCH) 3-out-of-6 code is loaded into the channel address register (CAR), and the DFC "boot" command is loaded into the channel data register (CDR). The starting disk address of little boot is contained in the command. The command is sent to the DFC. This command starts the transfer of little boot from disk to main

store.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) to force DFC 1 to boot. Next, if DFC 1 fails to recover, power cycle DFC 0 and clear the EAI forces. If this failure continues, replace the peripheral interface controller (PIC). The PIC is a circuit pack in the SMD DFC. The PIC is a circuit within the host adapter circuit pack in the SCSI-DFC.

If this fails to resolve the problem, try a different system disk. You can use a warm (plugged in) or cold (not plugged in) spare system disk. Or, you can build a new system disk using load disk from tape (LDFT).

**PRM:F0xx-1D0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 1D00 000z 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - little boot job - read little boot disk job timed out using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The central control (CC) microcode has waited 2 seconds for an interrupt from the DFC indicating job completion. The CC microcode was waiting for bit 10 in the interrupt source (IS) register to become active as the indication of an interrupt from the DFC.

## 6. CORRECTIVE ACTION

First, use the emergency action interface (EAI) option to force DFC 1 to boot. Next, if DFC 1 fails to recover, power cycle DFC 0 and clear the EAI forces. If the failure continues, replace the peripheral interface controller (PIC). Next, if the failure continues, replace the bus interface controller (BIC). Finally, if this failure continues, replace the duplex dual serial bus selector (DDSBS).

The PIC, BIC, and DDSBS are different circuit packs in the MD pack. The BIC and the PIC are circuits within the host adapter circuit pack in the SCSI-DFC.

**PRM:F0xx-1E0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 1E0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - little boot job - read little boot disk job errors using disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The central control (CC) microcode has received the interrupt from the DFC and now must determine if the job completed successfully.

The CC microcode first attempts to clear the job completion interrupt in the bus interface controller (BIC) of the DFC. Then the interrupt is cleared in the CU.

Status words are read from both the BIC and DFC. If either status word indicates an error, or the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the previous job, then this PRM is printed and the CU executes a maintenance reset function (MRF).

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) option to force DFC 1 to boot. Next, if DFC 1 fails to recover, power cycle DFC 0 and clear the EAI forces. If this fails to resolve the problem, try a different system disk. You can use a warm (plugged in) or cold (not plugged in) spare system disk. Or, you can build a new system disk using load disk from tape (LDFT).



**PRM:F0xx-2000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

```
PRM_p F0da 2000 0000 0000 hh hh hh
```

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - disk not forced.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The LDFT microcode requires that a disk be forced on the Master Control Center (MCC). The microcode will continue to print this PRM until a disk is forced.

**6. CORRECTIVE ACTION**

Force a disk from the MCC.



**PRM:F0xx-210x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 210z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - unable to initialize the path to the disk file controller (DFC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Initialization sequence number. This number corresponds to the step number listed under **CORRECTIVE ACTION**. However, if d equals 9, then the sequence number is not reported.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The LDFT request will result in a disk being loaded with information that was stored on the tape. The combination of the disk and DFC is called the selected boot device, and the tape/[input/output processor (IOP) or DFC] is called the selected tape device. LDFT microcode failed to initialize the dual serial channel (DSCH) used by the direct

memory access controller (DMAC) for accessing the selected boot device, or it failed to initialize the DMAC itself.

This PRM is printed when the I/O flags in the hardware status register (HSR) show that an error occurred in the previously job.

## 6. CORRECTIVE ACTION

All steps in the PRM are executed to initialize the DMAC and the DSCH:

- Step 1      Initialize the DIO for an LDFT: First, a clear error pulse is sent to DMAC 0. Then a DMAC initialization command is sent to DMAC 0. If that worked, then a clear error pulse is sent to all channels (DSCHs 11 through 14). Next, the same procedure is followed for DMAC1 and DSCHs 16 through 19. Sending the pulse to all channels can be done easily by loading the channel address register (CAR) with all 1s. However, addressing multiple channels causes an input/output (I/O) addressing error in the central control (CC) error register (ER). This error is immediately cleared.
- Step 2      This step will write an initialization code to clear the channel "busy" indicator in the DMAC. Next, a DSCCH initialization" command is sent to the "primary DSCH (the DSCH for the selected boot device). The command will contain a mask value to allow service requests to enter the DSCH from the primary boot device. The final action in this step is to write the mask register in the primary DMAC to allow interrupts from the primary channel.
- The DMAC was stopped by the above steps. Now, the microcode will wait 300 milliseconds before initializing the DFC. This waiting period gives the DFC enough time to complete all its pending jobs. This delay prevents the DFC from being stopped while writing to the disk.
- Step 3      Two commands are sent to the duplex dual serial bus selector (DDSBS) to clear it and make it operational.
- Step 4      The following bus interface controller (BIC) commands: clear BIC, and reset peripheral interface controller (PIC) are loaded into the channel data register (CDR). This command is sent to the BIC.

Failure during Steps 1 and 2 primarily implicate the CU. First, use the emergency action interface (EAI) option to force the other CU to boot. Next, power cycle the CU and clear the EAI forces.

Failure during Step 3 primarily implicates the DDSBS, located in the DFC. First, use the EAI option to force the other DFC to boot. Next, power cycle the DFC and clear the EAI forces.

Failure during Step 4 primarily implicates the PIC and BIC, located in the DFC. First, use the EAI option to force the other DFC to boot. Next, power cycle the DFC and clear the EAI forces.

If this PRM continues, the faulty equipment must be replaced. Try replacing some of the hardware described above.

**NOTE:** This PRM does not implicate the tape media.

**PRM:F0xx-220x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 220z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - peripheral interface controller (PIC) initialization failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Initialization sequence number. This number corresponds to the step number listed under **CORRECTIVE ACTION**. However, if d = 0, then the sequence number is not reported.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The LDFT request will result in a disk being loaded with information that was stored on the tape. The combination of the disk and DFC is called the selected boot device, and the tape/[input/output processor (IOP) or DFC] is called the selected tape device. LDFT microcode failed to initialize the dual serial channel (DSCH) used by the direct

memory access controller (DMAC) for accessing the selected boot device, or it failed to initialize the DMAC itself.

This PRM is printed when the I/O flags in the hardware status register (HSR) show that an error occurred in the previous job.

## 6. CORRECTIVE ACTION

All steps in the PRM are executed to initialize the DMAC and the DSCH:

- |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Step 4 | A bus interface controller (BIC) command to enable the peripheral interface controller (PIC) interface is loaded into the channel data register (CDR). This command is sent to the PIC that is part of the selected boot device using the BIC. Next, all bits of the interrupt source (IS) register are cleared of interrupts (writted to a 1). This is the last step in the sequence to initialize the path to the selected boot device.                |
| Step 5 | This step will write an initialization code to clear the channel "busy" indicator in the DMAC. Next, a "DSCCH initialization" command is sent to the primary DSCH (the DSCH for the selected boot device). The command will contain a mask value to allow service requests to enter the DSCH from the primary boot device. The final action in this step is to write the mask register in the primary DMAC to allow interrupts from the primary channel. |
| Step 6 | Two commands are sent to the duplex dual serial bus selector (DD SBS) to clear it and make it operational.                                                                                                                                                                                                                                                                                                                                               |
| Step 7 | The following BIC commands: clear BIC, and reset PIC are loaded into the CDR. This command is sent to the BIC.                                                                                                                                                                                                                                                                                                                                           |

Failure during Steps 4 and 5 primarily implicate the CU. First, use the emergency action interface (EAI) option to force the other CU to boot. Next, power cycle the CU and clear the EAI forces.

Failure during Steps 6 and 7 primarily implicate the DDSBS, located on the tape device selected. The specific failure can be caused by either the IOP or a disk file controller (DFC). Suspect a DFC only if the administrative module (AM) is a 3B21D.

If possible, try another tape device. Next, power cycle the selected unit and try again.

If this PRM continues, the faulty equipment must be replaced. Try replacing some of the hardware described above.

**NOTE:** This PRM does not implicate the tape media.

**PRM:F0xx-230x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 230z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - unable to initialize the path to the selected tape unit [disk file controller (DFC) or input output processor (IOP)], or LDFT - direct memory access controller (DMAC) setup for tape failed. This is a continuation of the initialization process. The previous steps have completed successfully (refer to PRM:F0xx-210x and PRM:F0xx-220x).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Initialization sequence number. This number corresponds to the step number listed under **CORRECTIVE ACTION**. However, if d equals 0, then the sequence number is not reported.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The LDFT microcode will first enable the peripheral interface controller (PIC) interface (d = 7) and then initialize the direct memory access controller (DMAC) memory. This PRM is printed when the I/O flags in the hardware status register (HSR) show that an error occurred in the previous job.

## 6. CORRECTIVE ACTION

- Step 7      A BIC command to enable the PIC interface is loaded into the CDR. This command is sent to the PIC that is part of the selected boot device using the BIC. Next, all bits of the interrupt source (IS) register are cleared of interrupts (writted to a 1). This is the last step in the sequence to initialize the path to the selected boot device.
- Step 8      First, a small page table is created in the control unit (CU) mainstore. Next, the DMAC random-access memory (RAM) for the selected tape device is written with information for a job. DMAC RAM word 0 is written first with a pointer to an expanded page table. Then, DMAC RAM word 3 is written with the main store transfer address for this disk job.

Failure during Step 7 primarily implicate the selected tape device, located on the tape device selected. The specific failure can be caused by either the input/output processor (IOP) or a disk file controller (DFC). Suspect a DFC only if the administrative module (AM) is a 3B21D. If possible, try another tape device. Next, power cycle the selected unit and try again.

Failure during Step 8 primarily implicate this CU [either the DMAC or memory manager (MM)]. First, use the emergency action interface (EAI) option to force the other CU to boot. Next, power cycle this CU and clear the EAI forces.

If this PRM continues, the faulty equipment must be replaced. Try replacing some of the hardware described above.

**NOTE:** This PRM does not implicate the tape media.



**PRM:F0xx-2400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2400 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - quick system generation (SYSGEN) of input/output processor (IOP) failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A special command is provided to the central control (CC) microcode to initialize the IOP for a LDFT. The command is sent to the IOP, and the CC microcode will wait 2 seconds for a job completion interrupt. Once the interrupt is received, the high-priority response register is read from main store. This data is put into main store by the IOP and indicates whether the job completed successfully. The CC microcode compares the high-priority response data with the correct response expected.

Therefore, there are two things that could cause this PRM:

- The job timed out.
- The response data was bad.

## **6. CORRECTIVE ACTION**

Try using other tape drive or fix IOP.

**PRM:F0xx-2500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2500 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - bad status from tape controller.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid value are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid value are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Before issuing the rewind command, the central control (CC) microcode reads a status word from the tape controller. The status word indicates if the tape drive is powered up and if it is on-line.

The timeout for receiving the status is 2 seconds. This PRM indicates that the tape drive controller is bad, the tape drive is not powered up, or the tape drive may not be on-line.

## **6. CORRECTIVE ACTION**

Check the tape drive first. If it appears OK, then examine the tape drive controller.

**PRM:F0xx-2600****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2600 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape rewind failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Something has stopped the tape from rewinding. The tape drive could have been powered down or taken off-line. If it is neither of these, then it is probably some hardware problem in the tape drive itself that is preventing the tape from rewinding. The microcode will wait up to 11 minutes for the tape to rewind.

**6. CORRECTIVE ACTION**

Try the other tape drive.

**PRM:F0xx-2700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2700 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of LDFT header failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent System initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The central control (CC) microcode sent a command to read the very first block from either a tape-only program (TOP) tape or a software release tape. The completion of the job failed either because of a bad completion code or due to a time-out. The microcode will wait 2 seconds before timing out.

**6. CORRECTIVE ACTION**

Try the other tape drive or try a different tape.



**PRM:F0xx-2800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2800 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - bad LDFT header information.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The first block read in from the tape must be a LDFT header. The second word in this header must be a special key word used in all LDFT headers. If this key word is not there, then this is not an LDFT tape.

If the tape sequence number indicated in the header is zero, then this is a tape-only program (TOP) tape and the LDFT microcode will proceed with reading the rest of the data from the tape.

If the tape sequence number is not zero, then this is a software release tape or a database tape and the microcode will exit to the LDFT software.

## **6. CORRECTIVE ACTION**

Select a different LDFT tape.

**PRM:F0xx-2900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2900 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of microcode file failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The central control (CC) microcode determined from the LDFT header read earlier that this is a tape-only program (TOP) tape and that a writable microcode file must be read. A read of a block of this writable CC microcode file from tape failed. The LDFT microcode will read 512 byte blocks at a time until all microcode blocks have been read.

Possible reasons for the failure are that the microcode on the TOP tape is not compatible with the hardware (that is, loading very large main memory (VLMM) microcode on non-VLMM hardware) or the TOP tape is corrupted, or there was a tape drive hardware failure.

## **6. CORRECTIVE ACTION**

Use the TOP tape that is compatible with the hardware, that is, use a non-VLMM TOP tape with non-VLMM hardware.

Then check the tape drive hardware.

**PRM:F0xx-2A00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2A00 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - invalid microcode file.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The data just read from the tape-only program (TOP) tape must be the writable microcode file to be pumped to the writable microstore. The microcode file has its own key word at the beginning plus the microstore starting address and the number of microcode words. This PRM indicates that the file is not a central control (CC) microcode file or that the file is not swabbed correctly.

**6. CORRECTIVE ACTION**

Use a TOP tape that was built correctly.

**PRM:F0xx-2B00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2B00 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of LDFT header failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The central control (CC) microcode sent a command to read a block from the software release tape. The completion of the job failed either due to a bad completion code or due to a timeout. The microcode will wait 2 seconds before timing out.

**6. CORRECTIVE ACTION**

Try the other tape drive or try different tape.



**PRM:F0xx-2C00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2C00 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - bad LDFT header information.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The next block read in from the tape must be a LDFT header. The second word in this header must be a special key word used in all LDFT headers. If this key word is not there, then this is not an LDFT tape.

**6. CORRECTIVE ACTION**

Select a different LDFT tape.



**PRM:F0xx-2D00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2D00 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of LDFT software failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

A read of a block of the LDFT software from tape failed. The LDFT microcode will read 512 byte blocks at a time until all LDFT software blocks have been read. Possible bad tape or problem with tape drive.

**6. CORRECTIVE ACTION**

Select a different LDFT tape.



**PRM:F0xx-2E00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2E00 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - bus interface controller (BIC) initialization or duplex dual serial bus selector (DDSBS) initialization for disk failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The DDSBS is initialized and then put into an operational mode. Then a BIC initialization command is sent to the BIC. This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that either of the previous jobs had an error.

**6. CORRECTIVE ACTION**

Try a different BIC. Try a different duplex dual serial bus selector (DDSBS). The DDSBS and BIC are part of the DFC.

**PRM:F0xx-2F00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 2F00 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - peripheral interface controller (PIC) initialization for disk failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A PIC initialization command is sent to the PIC. This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job.

**6. CORRECTIVE ACTION**

Try a different PIC. The PIC is contained on the circuit boards comprising the DFC.





**PRM:F0xx-3000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 3000 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - no tape-only program (TOP) tape has been read.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This PRM is printed when the TOP tape must be read in again. If the TOP tape had been read in earlier and this PRM is printed, it means some sort of initialization other than an LDFT has been tried. To ensure that the LDFT software is correct in main store, the central control (CC) microcode forces the TOP tape to be read again.

**6. CORRECTIVE ACTION**

Mount the TOP tape and start the LDFT again.

**PRM:F0xx-3100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 3100 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - control unit (CU) not forced.

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The LDFT microcode requires that a CU be forced on the Master Control Center (MCC). The microcode will continue to print this PRM until a CU is forced.

**6. CORRECTIVE ACTION**

Force a CU from the MCC.



**PRM:F0xx-480x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 480z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - unable to initialize the path to disk file controller 1 (DFC 1) in a bootstrap.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Installation sequence number. This number corresponds to the step number listed under **CORRECTIVE ACTION**. However, if d equals 0, then the sequence number is not reported.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Microboot failed to initialize the path of communication to DFC 1.

## 6. CORRECTIVE ACTION

Several steps under this PRM are executed to initialize the path.

- Step 0      The sequence number has not been provided. The failure occurred during one of the following steps.
- Step 1      Initialize the direct memory access I/O bus (DIO) for a bootstrap: First, a clear error pulse is sent to direct memory access controller 0 (DMAC 0). Then, a DMAC initialization command is sent to DMAC 0. If that works, then a clear error pulse is sent to all channels; that is, dual serial channels (DSCHs) 11 through 14.
- Next, the same procedure is followed for DMAC 1 and DSCHs 16 through 19. Sending the pulse to all channels can be done by loading the channel address register (CAR) with all 1's. However, addressing multiple channels causes an I/O addressing error in the common channel (CC) error register (ER). This error is immediately cleared.
- Step 2      This step will write all initialization code to clear the channel "busy" indicator in the DMAC. Next, a "DSCH initialization" command is sent to the primary DSCH (the DSCH for the selected boot device). The command will contain a mask value to allow service requests to enter the DSCH from the primary boot device. The final action in this step is to write the mask register in the primary DMAC to allow interrupts from the primary channel.
- Step 3      Two commands are sent to the duplex dual serial bus selector (DDSBS) to clear it and make it operational.

If any of these steps fail, this PRM is printed with the Step number in variable d.

Failure during Steps 1 and 2 primarily implicate the CU. First, force the other CU to boot. Next, if the other CU does not recover, power cycle this CU and then clear the emergency action interface (EAI) forces.

Failure during Step 3 primarily implicates the DDSBS [located in the disk file controller (DFC)]. First, use the EAI options to force DFC 0 to boot. Next, if DFC 0 does not recover, power cycle DFC 1 and then clear the EAI forces.

If this PRM continues to print, replace the faulty equipment.

**PRM:F0xx-4900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 4900 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - direct memory access controller (DMAC) setup failed using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Microboot failed to set up the random access memory (RAM) words in the DMAC. The first word written is DMAC RAM word 1 which contains the number of 16-word blocks to be transferred with this job. The value actually written is the 2s complement of the number of 16-word blocks described in the previous sentence.

The second word written is DMAC RAM word 3. Word 3 is the main store transfer address for this disk job.

The third and last word written to the DMAC RAM memory is RAM word 2 which is the pointer to the page tables. The page table entries were created by microboot and map all virtual addresses used for this disk transfer to the same physical main store address.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that the above job had an error.

## **6. CORRECTIVE ACTION**

Suspect the hardware described under **EXPLANATION**: Failure to set up the DMAC for DMA jobs primarily implicates the CU. First, force the other CU to boot. Next, if the other CU does not recover, replace the DMAC in this CU and then clear the emergency action interface (EAI) forces.



**PRM:F0xx-4A0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 4A0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - initialization of the bus interface controller (BIC) in disk file controller 1 (DFC 1) failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The dual serial channel (DSCH) 3-out-of-6 code is loaded into the channel address register (CAR) and an initialize BIC command is loaded into the channel data register (CDR). This command is sent to DFC 1 and executed.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show an error occurred in the above job.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) options to force DFC 0 to boot. Next, if DFC 0 fails to recover, power cycle DFC 1 and clear the EAI forces. If this failure continues, replace the peripheral interface controller (PIC). Next, if this failure continues, replace the bus interface controller (BIC). Next, if this failure continues, replace the duplex dual serial bus selector (DDSBS).

The PIC, BIC, and DDSBS are different circuit packs in the SMD DFC. The BIC and the PIC are circuits within the host adapter circuit pack in the SCSI-DFC.

**PRM:F0xx-4B0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 4B0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job initialization of the peripheral interface controller (PIC) in disk file controller 1 (DFC 1) failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The dual serial channel (DSCH) 3-out-of-6 code is loaded into the channel address register (CAR), and an initialize PIC command is loaded into the channel data register (CDR). The command is sent to DFC 1.

This PRM is printed when the input/output (I/O) flags in the hardware status register show that an error occurred in the above job. This command is sent to the bus interface controller (BIC).

## **6. CORRECTIVE ACTION**

The problem could be in the PIC, BIC, or duplex dual serial bus selector (DDSBS). First use the emergency action interface (EAI) options to force DFC 0 to boot. Next, if DFC 0 fails to recover, power cycle DFC 1 and clear the EAI forces. If this failure continues, replace the PIC. Next, if this failure continues, replace the BIC. Finally, if this failure continues, replace the DDSBS.

The PIC, BIC, and DDSBS are different circuit packs in the SMD DFC. The BIC and the PIC are circuits with the host adapter circuit in the SCSI-DFC.

**PRM:F0xx-4C0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 4C0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - DFC "boot" command failed using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The dual serial channel (DSCH) 3-out-of-6 code is loaded into the channel address register (CAR) and the DFC "boot" command is loaded into the channel data register (CDR). The command is sent to the DFC. This command starts the transfer of the VTOC from disk to main store.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that an error has occurred.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) option to force DFC 0 to boot. Next, make sure the disk is powered up and if recent maintenance activity was performed that it was done properly (cables not loose, correct ID plugs, and so forth). Finally, if these steps fail to resolve the problem, try a different disk.

**PRM:F0xx-4D0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 4D0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - read VTOC disk job timed out using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The central control (CC) microcode has waited 2 seconds for an interrupt from the DFC indicating job completion. The CC microcode waited for bit 10 in the interrupt source (IS) register to become active as the indication of an

interrupt from the DFC.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) to force DFC 0 to boot. Next, make sure the disk is powered up and if recent maintenance activity was performed that it was done properly (cables not loose, correct ID plugs used, and so forth). Next, if DFC 0 fails to recover, clear the EAI forces. Finally, if these steps fail to resolve the problem, try a different system disk. If this failure continues, replace the peripheral interface controller (PIC).

The PIC is a circuit pack in the SMD DFC. The PIC is a circuit within the host adapter circuit in the SCSI-DFC.



**PRM:F0xx-4E0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 4E0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - read VTOC disk job errors using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The central control (CC) microcode has received the interrupt from the DFC and must determine if the job completed successfully.

The CC microcode attempts to clear the job completion interrupt in the bus interface controller (BIC) of the DFC. Then the interrupt is cleared in the CU.

Status words are read from both the BIC and DFC. If either status word indicates an error, or, the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job, then this PRM is printed and the CU executes a maintenance reset function (MRF).

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) to force different DFC and CU combinations. If this PRM is reported from both CUs (that is, both PRM\_0 F0da 0E0d... and PRM\_1 F0da 0E0d ... print), the problem could be caused by a hardware fault in the DFC.

If the same PRM is reported from one CU and both DFCs (that is, both PRM\_1 F0da 0E0d... and PRM\_1 F0da 4E0d ... print), the problem could be caused by a hardware fault in the direct memory access controller (DMAC) or dual serial channel (DSCH).

If the same PRM is reported from both CUs and both DFCs (that is, both PRM\_p F0da 0E0d... and PRM\_p F0da 4E0d ... print), the problem could be caused by stray interrupts from other devices connected to the DSCH.

Try replacing the various implicated circuit packs. In the case of possible stray interrupts, use the EAI to force a boot configuration and power down unneeded units that are connected to the DSCH [for example, one input/output processor (IOP) and the other DFC].

**PRM:F0xx-4F0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 4F0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - volume table of contents (VTOC) job - read VTOC disk job successful using disk file controller 1 (DFC 1) but it does not have a little boot partition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The central control (CC) microcode examines the VTOC entries and searches for the primary little boot partition. Since the VTOC was read successfully, the failure to find the little boot partition probably indicates this disk is not a

system disk or the disk has been damaged.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) to force DFC 0 to boot. If this fails to resolve the problem, try a different system disk. You can use a warm (plugged in) or cold (not plugged in) spare system disk. Or, you can build a new system disk using load disk from tape (LDFT).

**PRM:F0xx-500x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 500z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - extract information from volume table of contents (VTOC) for disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Microboot has read the VTOC and found the little boot (lboot) partition entry. It will extract the information in the lboot entry (which is now in main memory) and determine the following:

- The size of the lboot file (v\_lsize).
- The size of the lboot partition (v\_nblks).
- The size of the writable microcode portion of the partition (v\_nblks minus v\_lsize).
- The starting disk block of the lboot file (v\_startblk).
- The starting disk block of the writable microcode (v\_startblk plus v\_lsize).
- The main memory physical address to load the lboot. (v\_load).

If any of the above steps fail, then this PRM is printed.

## 6. CORRECTIVE ACTION

The information has already been loaded into main memory and no disk jobs are performed; therefore, the implicated hardware is the CU. First, use the emergency action interface (EAI) options to force the other CU to boot. Next, if the other CU does not recover, power cycle this CU and clear the EAI forces.

If this CU is still printing this PRM and the DFC 0 version of the PRM (that is, PRM\_p F0da 100d . . . ) is also printing, then replace the hardware indicated in one of the following paragraphs, depending on the administrative module hardware present in your switch:

| Administrative Module | Action:                                                                                                                                                                                                                                                                                                                     |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3B20D                 | Replace the following hardware in this order until the problem is corrected: <ul style="list-style-type: none"> <li>• Main storage controller (MASC).</li> <li>• Data manipulation unit (DMU).</li> <li>• Store address control (SAC).</li> <li>• Module control unit (MCU).</li> <li>• Main store update (MSU).</li> </ul> |
| 3B21D                 | Replace the main memory (MM). If this does not correct the problem, replace the central control (CC).                                                                                                                                                                                                                       |

**PRM:F0xx-510x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 510z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - direct memory access controller (DMAC) setup failed using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Microboot failed to set up the random access memory (RAM) words in the DMAC. The first word written is DMAC RAM word 1 which contains the number of 16-word blocks to be transferred with this job. The value actually written

is the 2s complement of the number of 16-word blocks described in the previous sentence.

The second word written is DMAC RAM word 3. Word 3 is the main store transfer address for this disk job.

The third and last word written to the DMAC RAM memory is RAM word 2 which is the pointer to the page tables. The page table entries were created by microboot and maps all virtual addresses used for this disk transfer to the same physical main store address.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that the above job had an error.

## **6. CORRECTIVE ACTION**

Failure to setup the DMAC for direct memory access (DMA) jobs primarily implicates this CU. First, use the emergency action interface (EAI) to force the other CU to boot. Next, if the other CU does not recover, replace the DMAC in this CU and clear the EAI forces.



**PRM:F0xx-540x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 540z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - DFC "boot" command failed using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The dual serial channel (DSCH) 3-out-of-6 code is loaded into the channel address register (CAR), and DFC "boot" command is loaded into the channel data register (CDR). The disk address of a microcode block is contained in the

command. The command is sent to the DFC. This command starts the transfer of writable microcode from disk to main store.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface option to force DFC 0 to boot. Next, if DFC 0 fails to recover, power cycle DFC 1 and clear the EAI forces. If the failure continues, replace the peripheral interface controller (PIC). Next, if the failure continues, replace the bus interface controller (BIC). Finally, if the failure continues, replace the duplex dual serial bus selector (DDSBS).

The PIC, BIC, and DDSBS are different circuit packs in the SMD DFC. The BIC and the PIC are circuits within the host adapter circuit pack in the SCSI-DFC.

**PRM:F0xx-550x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 550z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - read microcode disk job timed out using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The CC microcode has waited 2 seconds for an interrupt from the DFC indicating job completion. The CC microcode was waiting for bit 10 in the interrupt source (IS) register to become active as the indication of an

interrupt from the DFC.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) option to force DFC 0 to boot. Next, if DFC 0 fails to recover, power cycle DFC 1 and clear the EAI forces. If the failure continues, replace the peripheral interface controller (PIC). Next, if the failure continues, replace the bus interface controller (BIC). Finally, if this failure continues, replace the duplex dual serial bus selector (DDSBS).

The PIC, BIC, and DDSBS are different circuit packs in the SMD DFC. The BIC and the PIC are circuits within the host adapter circuit pack in the SCSI-DFC.

**PRM:F0xx-560x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 560z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - read microcode disk job errors using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The CC microcode has received the interrupt from the DFC and must determine if the job completed successfully.

The CC microcode attempts to clear the job completion interrupt in the bus interface controller (BIC) of the DFC. Then the interrupt is cleared in the CU.

Status words are read from both the BIC and DFC. If either status word indicates an error, or the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job, then this PRM is printed and the CU executes a maintenance reset function (MRF).

## 6. CORRECTIVE ACTION

First, use the emergency action interface (EAI) option to force the other CU to bootstrap. If the same failure occurs, the implicated hardware [peripheral interface controller (PIC) and BIC] is in DFC 1. Therefore, use the EAI option to select DFC 0.

Otherwise, if this CU causes both this PRM and the DFC 1 PRM (that is, `PRM_p F0da 560z . . .`) to print, suspect the direct memory access controller (DMAC) or dual serial channel (DSCH) hardware. In this case, try to boot from the other CU.

**PRM:F0xx-570x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 570z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - writable central control (CC) microcode job - bad CC microcode file from disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The CC writable microcode file has been read from disk. The first 32 bits of the microcode file contain a key word used to insure that the file is a valid writable microcode file.

The file is not a valid writable microcode file.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) options to force DFC 0 to boot. Next, make sure the disk is powered up and if recent maintenance activity was performed that it was done properly (cables not loose, correct ID plugs, and so forth). Next, if these steps fail to resolve the problem, try a different disk.



**PRM:F0xx-580x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 580z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - little boot job - error while preparing to read little boot file from disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

After reading the writable microcode from the little boot partition, the microboot program will read the little boot program into mainstore. This PRM indicates a problem at the beginning of the procedure prior to the direct memory access (DMA) setup.

## **6. CORRECTIVE ACTION**

Use the emergency action interface (EAI) option to force DFC 0 to boot. If the PRM continues to print, try a different system disk. You can use a warm (plugged in) or cold (not plugged in) spare system disk. Or, you can build a new system disk using load disk from tape (LDFT).

**PRM:F0xx-590x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 590z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - little boot job - direct memory access controller (DMAC) setup failed using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Microboot failed to set up the random access memory (RAM) words in the DMAC. The first word written is DMAC RAM word 1 which contains the number of 16-word blocks to be transferred with the job. The value actually written is the 2s complement of the number of 16-word blocks described above.

The second word written is DMAC RAM word 3. Word 3 is the main store transfer address for this disk job.

The third and last word written to the DMAC RAM memory is RAM word 2 which is the pointer to the page tables. The page table entries were created by microboot and map all virtual addresses used for this disk transfer to the same physical main store address.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job.

## **6. CORRECTIVE ACTION**

Failure to setup the DMAC for DMA jobs primarily implicates this CU. First use the emergency action interface (EAI) options to force the other CU to boot. Next, if the other CU does not recover, replace the DMAC in this CU and clear the EAI forces.

**PRM:F0xx-5C0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 5C0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - little boot job - DFC "boot" command failed using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The dual serial channel (DSCH) 3-out-of-6 code is loaded into the channel address register (CAR), and the DFC "boot" command is loaded into the channel data register (CDR). The starting disk address of little boot is contained in the command. The command is sent to the DFC. This command starts the transfer of little boot from disk to main

store.

This PRM is printed when the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the above job.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) to force DFC 0 to boot. Next, if DFC 0 fails to recover, power cycle DFC 1 and clear the EAI forces. If this failure continues, replace the peripheral interface controller (PIC). The PIC is a circuit pack in the SMD DFC. The PIC is a circuit within the host adapter circuit pack in the SCSI-DFC.

If this fails to resolve the problem, try a different system disk. You can use a warm (plugged in) or cold (not plugged in) spare system disk. Or, you can build a new system disk using load disk from tape (LDFT).

**PRM:F0xx-5D0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 5D0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - little boot job - read little boot disk job timed out using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The central control (CC) microcode has waited 2 seconds for an interrupt from the DFC indicating job completion. The CC microcode was waiting for bit 10 in the interrupt source (IS) register to become active as the indication of an interrupt from the DFC.

## 6. CORRECTIVE ACTION

First, use the emergency action interface (EAI) option to force DFC 0 to boot. Next, if DFC 0 fails to recover, power cycle DFC 1 and clear the EAI forces. If the failure continues, replace the peripheral interface controller (PIC). Next, if the failure continues, replace the bus interface controller (BIC). Finally, if this failure continues, replace the duplex dual serial bus selector (DDSBS).

The PIC, BIC, and DDSBS are different circuit packs in the SMD pack. The BIC and the PIC are circuits within the host adapter circuit pack in the SCSI-DFC.



**PRM:F0xx-5E0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 5E0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Microboot - little boot job - read little boot disk job errors using disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The central control (CC) microcode has received the interrupt from the DFC and now must determine if the job completed successfully.

The CC microcode first attempts to clear the job completion interrupt in the bus interface controller (BIC) of the DFC. Then the interrupt is cleared in the CU.

Status words are read from both the BIC and DFC. If either status word indicates an error, or the input/output (I/O) flags in the hardware status register (HSR) show that an error occurred in the previous job, then this PRM is printed and the CU executes a maintenance reset function (MRF).

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) option to force DFC 0 to boot. Next, if DFC 0 fails to recover, power cycle DFC 1 and clear the EAI forces. If this fails to resolve the problem, try a different system disk. You can use a warm (plugged in) or cold (not plugged in) spare system disk. Or, you can build a new system disk using load disk from tape (LDFT).

**PRM:F0xx-5F0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 5F0z 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Writable microstore loaded from disk and programmable read-only memory (PROM) version of microcode are incompatible.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification information. This indicates the small computer system interface (SCSI) bus device or storage module device (SMD) "ID plug" selected to be the boot device (system disk).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The microcode read and loaded into writable microstore is incompatible with the PROM microcode. The PROM version is for non-VLMM hardware and the writable version is for very large main memory (VLMM) hardware.

## 6. CORRECTIVE ACTION

The correct microcode pumpfile matching the PROM board must be resident in writable microstore. Replace the writable microcode pumpfile that has been loaded with the correct version, or install the correct PROM board. If the process running is load disk from tape (LDFT), the wrong tape-only program (TOP) tape is probably being used. If this PRM is seen during a boot, the correct version of little boot must be placed in the little boot partition before the process will boot.

**PRM:F0xx-6000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 6000 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

The microcode read and loaded into writable microstore is incompatible with the programmable read-only memory (PROM) microcode.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for digit definitions.

**5. EXPLANATION**

The microcode read and loaded into writable microstore is incompatible with the PROM microcode. The PROM version is for very large main memory (VLMM) hardware and the writable version is for non-VLMM hardware.

**6. CORRECTIVE ACTION**

The correct microcode pumpfile matching the PROM board must be resident in writable microstore. Replace the writable microcode pumpfile that has been loaded with the correct version, or install the correct PROM board. If the process running is load disk from tape (LDFT), the wrong tape-only program (TOP) tape is probably being used. If this PRM is seen during a boot, the correct version of little boot must be placed in the little boot partition before the processor will boot.

**PRM:F0xx-61xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 61yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

In load disk from tape (LDFT), the initial load command of the tape failed or timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information; it indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0.

1 = DFC 1.

z = Tape device identification information. This indicates the SCSI bus device selected (0 through F) to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode sent a command to load the SCSI tape. First, the load tape command is sent to the device indicated by *z*. Either the command did not finish with the I/O normal flag set in the hardware status register (HSR), or the completion of the job failed due to a time-out. The microcode will wait 10 minutes before timing out.

## **6. CORRECTIVE ACTION**

First, make sure the tape drive is powered up and on-line. Otherwise, the problem could be one of the following (in order):

- Tape drive controller.
- Tape drive.
- Power supply unit for the DFC that the tape drive is connected to.
- DFC circuit pack.



**PRM:F0xx-62xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 62yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

In load disk from tape (LDFT), the initial tape load of the tape job failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information; it indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0.

1 = DFC 1.

z = Tape device identification information. This indicates the SCSI bus device selected (0 through F) to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode sent a command to load the SCSI tape. The job completed but failed because of a bad completion code.

## **6. CORRECTIVE ACTION**

First, make sure the tape drive is powered up and on-line. Otherwise, the problem could be one of the following (in order):

- Tape drive controller.
- Tape drive.
- Power supply unit for the DFC that the tape drive is connected to.
- DFC circuit pack.

**PRM:F0xx-63xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 63yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - initial rewind command of the tape failed or timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode sent a command to rewind the SCSI tape: either a tape-only program (TOP) or a generic tape. First, the "rewind tape job" command is sent to the device indicated by variable *z*. Either the command did not finish with the I/O normal flag set in the hardware status register (HSR), or the completion of the job failed due to a time-out. The microcode will wait 10 minutes before timing out.

## **6. CORRECTIVE ACTION**

Make sure the tape drive is powered up and on-line, or try the other tape drive.

**PRM:F0xx-64xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 64yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - initial rewind of tape job failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode sent a command to rewind the SCSI tape: either a tape-only program (TOP) or a generic tape. The job completed, but it failed because of a bad completion code.

## **6. CORRECTIVE ACTION**

Make sure the tape drive is powered up and on-line, try the other tape drive, or try a different tape.

**PRM:F0xx-65xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 65yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of file header failed or timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode sent a "read block job" to the device indicated by variable *z*. This command will read the very first block (tape header information) from either a tape-only program (TOP) or a generic tape. Either the command did not complete normally, or the completion of the job failed due to a time-out. The microcode will wait 10 minutes before timing out.

## **6. CORRECTIVE ACTION**

Make sure the tape drive is powered up and on-line. This microcode sequence is the first to use the main memory; therefore, first use the EAI options to boot the other CU. If the same failure occurs then try the other tape drive. If the same failure continues, try a different tape.



**PRM:F0xx-66xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 66yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of file header record failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the User Guidelines for definition of

the digits.

## **5. EXPLANATION**

The central control (CC) microcode sent a command to read the very first block from either a tape-only program (TOP) or a generic tape. The job completed; however, the hob failed because of a bad completion code.

## **6. CORRECTIVE ACTION**

Try the other tape drive or try a different tape.

**PRM:F0xx-67xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 67yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - bad file record header information.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The first block read in from the tape must be a LDFT header. The second word in this header must be a special key word used on all LDFT headers. If this key word is not there, then this is not an LDFT tape; the LDFT attempt fails and this PRM is printed. This header check will also identify a zero length writable microcode file which will also result in this failing PRM (however, this is not likely to occur).

If the tape sequence number indicated in the header is zero, then this is a tape-only program (TOP) tape and the LDFT microcode will proceed with reading the rest of the data from this tape.

If the tape sequence number is not zero, then this is a generic tape or a database tape and the microcode will exit to the LDFT software.

## **6. CORRECTIVE ACTION**

The failure implicates the tape or the data on the tape. Use a different LDFT tape.

**PRM:F0xx-68xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 68yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - command to skip to end-of-file marker on a LDFT tape failed or timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode determined from the file header record read earlier that this is a tape-only program (TOP) tape with 3B20D administrative module (AM) information. However, the tape may contain 3B21D AM information after the end-of-file (EOF) marker for the 3B20D information. Therefore, the DLFT microcode sent the command "seek EOF job" to the device indicated by variable *z*. Either the command did not finish with the I/O normal flag set in the hardware status register (HSR), or the completion of the job failed due to a time-out.

## **6. CORRECTIVE ACTION**

Try a different tape or try a different tape driver device.

**PRM:F0xx-69xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 69yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - job to skip to end-of-file marker failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode determined from the file header record read earlier that this is a tape-only program (TOP) with 3B20D administrative module (AM) information. However, the tape may contain 3B21D information after the end-of-file (EOF) marker for the 3B20D AM information. Therefore, the LDFT microcode sent the command "seek EOF job" to the device indicated by variable *z*. The job completed but failed because of a bad completion code.

## **6. CORRECTIVE ACTION**

Try a different tape or try a different tape drive device.



**PRM:F0xx-6Axx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 6Ayz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of microcode file command failed or timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode determined from the LDFT header read earlier that this is a tape-only program (TOP) tape and that a writable microcode file must be read. A command for "read a block job" was sent to the device indicated by variable *z* to read a block of this writable CC microcode file. Either the command failed or timed out. The LDFT microcode will read 512-byte blocks at a time until all microcode blocks have been read.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) to force the other CU to boot. Next, try a different tape or try a different tape device.

**PRM:F0xx-6Bxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 6Byz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of microcode job file failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode determined from the LDFT header read earlier that this is a tape-only program (TOP) tape and that a writable microcode file must be read. A command for "read a block job" was sent to the device indicated by variable *z* to read a block of this writable CC microcode file. The job completed but failed with a bad completion code. The LDFT microcode will read 512-byte blocks at a time until all microcode blocks have been read.

## **6. CORRECTIVE ACTION**

First, use the emergency action interface (EAI) to force the other CU to boot. Next, try a different tape or try a different tape device.

**PRM:F0xx-6Cxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 6Cyz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - invalid microcode file.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The data just read from the tape-only program (TOP) tape must be the writable microcode file to be pumped to the writable microstore. The microcode file has its own key word at the beginning plus the microstore starting address and the number of microcode words. This PRM indicates that the file is not a 3B21D central control (CC) microcode file or that the file has been damaged.

## **6. CORRECTIVE ACTION**

Try a different TOP tape.

**PRM:F0xx-6Dxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 6Dyz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of LDFT software file header command failed or timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode send a command to read the block containing the LDFT software file header from the tape-only program (TOP) tape. This command did not complete with the I/O normal or failed due to a timeout. The microcode will wait 10 minutes before timing out.

## **6. CORRECTIVE ACTION**

Try a different tape drive or try a different tape.



**PRM:F0xx-6Exx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 6Eyz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of LDFT software file header job failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode sent a command to read the block containing the LDFT software file header from the tape-only program (TOP) tape. This read job completed but failed because of a bad completion code.

## **6. CORRECTIVE ACTION**

Try a different tape drive or try a different tape.

**PRM:F0xx-6Fxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 6Fyz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - bad LDFT software header information.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The tape-only program (TOP) tape contains the writable microstore and LDFT software (the program used to read the LDFT tapes). The next block read in from the tape must be a LDFT software header. The second word in this header must be a special key word used in all LDFT headers. If this key word is not there, then this is not an LDFT tape.

## **6. CORRECTIVE ACTION**

Try another TOP tape.

**PRM:F0xx-70xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 70yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of LDFT software command failed or timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode determined from the LDFT header read earlier that this is a tape-only program (TOP) tape and that a writable microcode and LDFT software files must be read. The microcode files have been read in and copied to writable microcode. Now the LDFT software must be read. A command for "read a job block" was sent to the device indicated by variable *z* to read a block of this LDFT software file. The command did not complete with the I/O normal or the completion of the job failed due to a time-out. The microcode will wait 10 minutes before timing out. The LDFT microcode will read 512-byte blocks at a time until all LDFT software blocks have been read.

## **6. CORRECTIVE ACTION**

Try the other tape drive, or try a different tape.

**PRM:F0xx-71xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da 71yz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT) microcode.

**3. FUNCTION**

Load disk from tape (LDFT) - tape read of LDFT software failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = LDFT selection information. It indicates the disk file controller (DFC) selected to access the small computer system interface (SCSI) tape device. Valid values are:

0 = DFC 0

1 = DFC 1

z = Tape device identification information. This indicates the SCSI bus device selected to be the SCSI tape unit.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The central control (CC) microcode determined from the LDFT header read earlier that this is a tape-only program (TOP) tape and that a writable microcode and LDFT software files must be read. The microcode files have been read in and copied to writable microcode. Now the LDFT software must be read. A command for "read a job block" was sent to the device indicated by variable *z* to read a block of this LDFT software file. The job completed but failed because of a bad completion code. The LDFT microcode will read 512-byte blocks at a time until all LDFT software blocks have been read.

## **6. CORRECTIVE ACTION**

Try the other tape drive, or try a different tape.



**PRM:F0xx-F0xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da F0zz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor microcode.

**3. FUNCTION**

The common control (CC) microcode has encountered a failure condition and will cause a restart at the maintenance reset function (MRF) micro-interrupt address. This PRM will result in a level 1 or higher initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Reason for the MRF. Valid values are:

04 = Microcode detected a fault in the address translation buffer (ATB) during a purge ATB instruction.

0B = A maintenance store operation cleanup after errors have been detected still results in additional errors pending.

25 = All unused microcode locations are loaded with an instruction to jump to the microprogram that will print this PRM and MRF the system.

- 2 6           = A micro-interrupt occurred and the microinterrupt handler was called to determine the source; however, no source could be found. This is generally caused by a faulty CC circuit pack.
- 3 C           = Certain micro error interrupts taken will result in a stop-and-switch. The stop-and-switch has been changed to a MRF because this CU is forced online.
- 3 F           = Certain micro error interrupts taken will result in a stop-and-switch. The stop-and-switch has been changed to a MRF because the intelligent serial controller (ISC) bits [system status register (SSR) bits 4 and 5] are set for a boot.
- 4 A           = A micro-interrupt occurred; however, interrupts are blocked (SSR 19) or the appropriate interrupt source is masked by the interrupt mask (IM).

h           = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

The central control (CC) has encountered a situation for which the appropriate recovery action is to reinitialize the system.

## 6. CORRECTIVE ACTION

The system should recover automatically; if it does not, take the following action:

- 1           Force the other CU online using the EAI "Force Online" (Fonl) command.
- 2           Manually request a higher-level boot.

**PRM:F0xx-xxxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F0da yyzz zzzz zzzz hh hh hh

**2. PRM SOURCE**

Processor microcode.

**3. FUNCTION**

The CC microcode has generated a PRM code which is to be ignored.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Has no meaning since the PRM is to be ignored.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Value of PRM code. Valid values are:

12,13,1A,1B and 1F

32 through 3F

40 through 47

52,53,5A and 5B

72 through 7F

80 through 8F

90 through 9F

A0 through AF

B0 through BF  
C0 through CF  
D0 through DF  
E0 through EF  
F0 through FE

z = These digits have no meaning and are to be ignored.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The CC microcode has generated a PRM code which is to be ignored.

## 6. CORRECTIVE ACTION

No corrective action is required.

**16. F1xx-0000 — F4xx-0FFF**

**PRM:F1xx-0100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 0100 0000 yzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Initializing the bus interface controller (BIC) of the boot disk file controller (DFC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

yzzz = Dual serial channel driver kernel process (DSCH) status.

**NOTE:** DSCH status consists of 13 bits which are the least significant bit of variable y along with all bits of variable zzz. (Refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for the DSCH status layout.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The BIC associated with the boot device is being initialized. This device connects to DSCH 11 of the direct memory access (DMAC) controller 0. The channel reported a failure.

## **6. CORRECTIVE ACTION**

Start replacing the associated DMAC dual serial channel circuit pack, the duplex dual serial bus selector pack of the DFC, and the BIC of the DFC, in the order listed, until the repair is made and the system boots. In the SCSI-DFC, the BIC is part of the host adapter circuit packs of the DFC.

**PRM:F1xx-0400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 0400 0000 zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Initializing the peripheral interface controller (PIC) of the boot disk file controller (DFC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Bus interface controller (BIC) status. (Refer to the APP:BIC-STAT appendix in the Appendixes section of the PRM manual for BIC status.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The PIC associated with the boot device is being initialized.

**6. CORRECTIVE ACTION**



Start replacing the associated DMAC dual serial channel circuit pack, the duplex dual serial bus selector (DDSBS) pack of the DFC, and the BIC of the DFC, in the order listed, until the repair is made and the system boots. In the small computer system interface (SCSI)-DFC, the BIC is part of the host adapter circuit boards of the DFC.

**PRM:F1xx-0500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 0500 0000 0000 hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Failed to find the big boot file entry in the disk volume table of contents (VTOC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

Block 0 on each disk is the VTOC for that disk. The VTOC is searched to locate the entry for the big boot file associated with the software release that is being used to boot (either the current software release or the backup software release). The VTOC search was not successful.

**6. CORRECTIVE ACTION**

If the machine will not boot using either boot disk file controller, try booting from the software release not currently being used. If this is not successful and this failing PRM is obtained and if disk packs are used as the backup medium rather than tape, load a backup disk pack and try to boot using it. If tape is the backup medium, load the boot disk using the dead start feature (LDFT). For information about loading a tape from dead start, refer to the System Recovery manual, 235-105-250.

**PRM:F1xx-0700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 0700 0000 zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Initializing the direct memory access controller (DMAC) random access memory (RAM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Dual serial channel (DSCH) status. Refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for the DSCH status layout.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The RAM in DMAC 0, associated with the boot device, is being initialized.

**6. CORRECTIVE ACTION**

Replace the circuit packs associated with DMAC 0 in the CU that produced the PRM.

**PRM:F1xx-0A00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 0A00 00zz 0000 hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Failed to find an entry in the disk volume table of contents (VTOC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = VTOC entry flag definitions. Valid values are:

09 = VTOC itself.

02 = Big boot partition for current or backup software release.

03 = Root partition for current or backup software release.

05 = Panic dump partition.

06 = Equipment configuration database (ECD) and system generated (SG) database for current or backup software release.

07 = System update log and plant measurements database (ETC partition).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

Block 0 on each disk is the VTOC for that disk. The VTOC is searched to locate certain entries that are to be saved. The VTOC search was not successful. The VTOC has a bad entry or entries.

## 6. CORRECTIVE ACTION

If the machine will not boot using either boot disk file controller, try booting from the software release not currently being used (if a backup software release is provided). If this is not successful and this failing PRM is obtained and if disk packs are used as the backup medium rather than tape, load a backup disk pack and try to boot using it. If tape is the backup medium, load the boot disk using the LDFT For information about loading a tape from dead start, refer to the System Recovery manual, 235-105-250.

**PRM:F1xx-0B00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 0B00 0000 0000 hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Disk job timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The disk file controller (DFC) did not complete a disk job (loading BBOOT into memory) within 4 seconds.

**6. CORRECTIVE ACTION**

Replace circuit boards associated with DFC. If this does not correct the problem, replace direct memory access controller (DMAC) boards in the CU that produced this PRM.





**PRM:F1xx-10xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 10ww xxxx y00z hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Disk job failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Disk completion code.

x = Bits 16-31 of the moving head disk (MHD) status word.

y = Disk job 0 failure data autonomous response code. For an explanation of this code, refer to the "Autonomous Reports Special Completion Code" exhibit in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750.

z = Disk file controller (DFC) being used.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

The programmed input/output (I/O) "boot" command was sent to the DFC. The disk job was not done successfully.

## 6. CORRECTIVE ACTION

The following disk completion codes indicate a DFC failure so the DFC circuit packs should be replaced, one at a time, until the repair is made:

|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 81 | 9F | A1 | 9D | B3 | BF |
| 99 | 9B | B1 | AF | A3 |    |

The following disk completion codes indicate a MHD failure, and the repair procedures for MHDs should be followed:

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 83 | 85 | 89 | 8B | 8D | 8F | 91 | 93 | 95 | 97 |
| A7 | A9 | AB | AD | B5 | BB | BD | C1 | C3 | C5 |
| C7 | C9 | CB | CD | CF | D1 | D3 |    |    |    |

The following disk completion codes indicate either a DFC failure or an MHD failure:

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 8B | A7 | A9 | AB | AD | AF | BB |    |    |    |
| C1 | C3 | C5 | C7 | C9 | CB | CD | CF | D1 | D3 |

In this case, replace the circuit packs in the DFC that are associated with disk data error checking. If the failure is not corrected, follow the repair procedures for an MHD failure. Disk completion code B7 indicates a failure in the direct memory access controller (DMAC) circuitry or the associated channel circuitry; and these circuits should be replaced, one at a time, until the repair is made.

**PRM:F1xx-2000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 2000 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Page table initialization routine called with invalid parameter.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Number of page table entries which called the routine.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

There can be from 1 to 64 entries in a page table. The initialization routine was called to initialize an illegal number of entries. The number of entries was determined from the inode corresponding to the file that is to be loaded. The file being loaded must be contiguous.

## **6. CORRECTIVE ACTION**

If the system will not boot from either boot device, try booting on the other root system (backup if current was being used or vice versa) or the other configuration (minimum if normal was being used or vice versa).

**PRM:F1xx-2100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 2100 0000 zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Channel error during programmed input/output (I/O) system generation (SYSGEN) command to disk.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Dual serial channel (DSCH), (refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for the DSCH status layout.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The DFC SYSGEN programmed I/O command was being sent to the boot device when a channel error was detected.

## **6. CORRECTIVE ACTION**

The peripheral interface controller (PIC) or the bus interface controller (BIC) of the boot disk file controller (DFC) is faulty. Replace these circuit packs, in the order given, until a repair is made and the system is able to boot. In the SMD-DFC, these functions are provided on separate circuit packs. In the SCSI-DFC, these functions are provided on the host adapter circuit boards of the DFC.

**PRM:F1xx-22xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 22uu www xy0z hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Disk job failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Disk completion code. Refer to the "DFC Error Codes" exhibit and "Conditional Success Codes" exhibit in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750.

Look first for this two-digit entry in exhibit 1. If you do not find this value in exhibit 1, look in exhibit 2.

w = Disk status. Refer to the APP:DFC-C appendix in the Appendixes section of the Output Messages manual, 235-600-750.

To use this information, first break down each hexadecimal digit represented by a single w in the PRM format into its bit pattern. Then match the individual bit with its counterpart in bits 16-31 in the APP:DFC-C appendix.



x = Valid values are:

| If "y" =       | "x" =                                                                                                                                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1              | The autonomous response code. For an explanation of this code, go to the "Autonomous Reports" exhibit in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. |
| Anything else. | Not used.                                                                                                                                                                                             |

y = Flag telling whether the value at x has meaning or not.

z = Disk file controller (DFC) being used.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The programmed input/output (I/O) "boot" command was sent to the DFC. The disk job was not done successfully.

## 6. CORRECTIVE ACTION

The following disk completion codes indicate a DFC failure; so the DFC circuit packs should be replaced, one at a time, until the repair is made:

|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 81 | 9F | A1 | 9D | B3 | BF |
| 99 | 9B | B1 | AF | A3 |    |

The following disk completion codes indicate a moving head disk (MHD) failure, and the repair procedures for MHDs should be followed:

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 83 | 85 | 89 | 8B | 8D | 8F | 91 | 93 | 95 | 97 |
| A7 | A9 | AB | AD | B5 | BB | BD | C1 | C3 | C5 |
| C7 | C9 | CB | CD | CF | D1 | D3 |    |    |    |

The following disk completion codes indicate either a DFC failure or an MHD failure:

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 8B | A7 | A9 | AB | AD | AF | BB |    |    |    |
| C1 | C3 | C5 | C7 | C9 | CB | CD | CF | D1 | D3 |

In this case, replace the circuit packs in the DFC that are associated with disk data error checking. If the failure is not corrected, follow the repair procedures for an MHD failure. Disk completion code B7 indicates a failure in the direct memory access controller (DMAC) circuitry or the associated channel circuitry; and these circuits should be replaced, one at a time, until the repair is made.

**PRM:F1xx-5200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 5200 yyyy zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Wrong tape mounted.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Type of data to be loaded.

z = Tape sequence number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The LDFT program loads data of type specified by w and z. The tape that was mounted was not of the correct type.

## **6. CORRECTIVE ACTION**

Load the correct tape type.

**PRM:F1xx-5300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 5300 0000 zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Sequence number of tape not correct.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Tape sequence number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

An out-of-sequence tape was mounted. The sequence numbers of the tapes must be consecutive and in ascending order.

**6. CORRECTIVE ACTION**

Mount the tape whose sequence number is specified in the PRM.

**PRM:F1xx-55xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 55yy yyyy yyzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Wrong tape.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Tape identifier.

z = Tape sequence number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

When multiple tapes must be loaded, each tape must have the same identifier (version). The mounted tape is not in the group of tapes to be loaded.

## **6. CORRECTIVE ACTION**

Mount a tape whose identifier and sequence number is specified in the PRM.

**PRM:F1xx-56xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 56yy yyyy yyzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Tape header is invalid.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Tape identifier.

z = Tape sequence number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

A bad tape header was encountered.



## **6. CORRECTIVE ACTION**

Mount a tape whose identifier and sequence number is specified in the PRM.

**PRM:F1xx-6000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 6000 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Bad tape.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Tape sequence number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

Each header contains a field loaded with a unique pattern that is used to check that the tape is formatted correctly. This header does not contain the correct sync word.

**6. CORRECTIVE ACTION**

None.

**PRM:F1xx-6100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 6100 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

High-priority tape job failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Tape job high-priority response register.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

One of the jobs submitted to the tape unit using programmed input/output (I/O) failed.

**6. CORRECTIVE ACTION**

If there is another tape unit in the office, try using it. Otherwise, replace boards in I/O processor (IOP) frame associated with tape unit. If this does not correct problem, try to clean or align the tape. If that does not work, try loading an earlier sequence of tapes to determine if the tape itself is bad.

**PRM:F1xx-6200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 6200 0000 zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Bus interface controller (BIC) is locked up.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = BIC status. (Refer to the APP:BIC-STAT appendix in the Appendixes section of the PRM manual for BIC status.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

Commands are sent to the tape unit using programmed input/output (I/O). After each command is sent, the BIC must reset the command flag within 20 microseconds. The command flag was not reset.

## **6. CORRECTIVE ACTION**

Replace the BIC and associated tape unit circuit boards in the I/O processor (IOP) unit being used.

**PRM:F1xx-6300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 6300 00zz 0000 hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Tape job or disk job timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Type of job that timed out. Valid values are:

11 = Read control information from tape.

12 = Read system data from tape.

18 = Sense status of tape peripheral controller.

21 = Write system data to disk.

28 = Setup (sysgen) for disk write.



2 9                    = Disk format.

h                    = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## **5. EXPLANATION**

The tape unit did not complete a tape job, a disk job did not complete, or a disk format did not complete within twenty minutes.

## **6. CORRECTIVE ACTION**

If it is a tape problem, try the other tape unit. If it is a disk problem, try to LDFT to the mate disk. If the problem persists, use the other CU. As a last resource refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F1xx-6400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 6400 0000 zzzz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Direct memory access controller (DMAC) initialization failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Dual serial channel (DSCH). (Refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for the DSCH status layout.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The DMAC is being initialized and a failure was detected.

**6. CORRECTIVE ACTION**

Replace direct memory access (DMA) boards.

**PRM:F1xx-6500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

```
PRM_p F1da 6500 zzzz zzzz hh hh hh
```

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Microcode passed a bad parameter.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Device identification.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

Microcode passes to this program the device identification of the disk and tape units. One of the identifications received is unrecognizable.

**6. CORRECTIVE ACTION**

Try other control unit (CU), disk controller, tape unit (if available), or moving head disk (MHD).

**PRM:F1xx-6600****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 6600 zzzz 0000 hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Bad block size in tape header.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Record (tape block) size.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

Currently the only block sizes that are supported are 512 and 2048 bytes.

**6. CORRECTIVE ACTION**

Mount a tape which was made using the correct block sizes.

**PRM:F1xx-6700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 6700 0000 00zz hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

The database was not loaded on disk in the same system (backup or primary) as the software release data.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = The system that was requested by the database tapes to boot from.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The last header on the software release tape and the database tapes indicates which system (backup or primary) was loaded and consequently which must be used to boot from. There must be consistency between the two. This PRM indicates an inconsistency.



## **6. CORRECTIVE ACTION**

Use a set of software release tapes and database tapes that load the same system (backup or primary).

**PRM:F1xx-6800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

```
PRM_p F1da 6800 zzzz zzzz hh hh hh
```

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Wrong tape was loaded.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Tape number to be mounted.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

Trying to load a database tape before the software release tapes without selecting the "database only" option.

**6. CORRECTIVE ACTION**

Load the software release tapes. If a "database only" option was specified, then input a 42 on the emergency action interface (EAI) followed by a D for the parameter. This is done after the tape-only program (TOP) tape has been loaded and prior to loading the first database tape. Then input a 55/56 to restart the LDFT feature.

**PRM:F1xx-6900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 6900 0000 0000 hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Wrong tape mounted.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

Database tapes not made with the system generation (SG) database were used when making the software release tapes.

**6. CORRECTIVE ACTION**

Use software release and database tapes made using the same SG database.



**PRM:F1xx-7000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F1da 7000 000z 0000 hh hh hh

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Wrong tape mounted.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Character position in the software release version number which did not match that of previous tape.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This database tape software release version number did not match the software release version number on a previous database tape or the software release version number on the software release tape(s).

## **6. CORRECTIVE ACTION**

Use software release and database tapes made from the same software release version.

**PRM:F1xx-7200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

```
PRM_p F1da 7200 0000 0000 hh hh hh
```

**2. PRM SOURCE**

Little boot and load disk from tape (LDFT).

**3. FUNCTION**

Disk job failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

No defect table was found for the disk. This only applies to a Storage module device (SMD)-moving head disk (MHD).

**6. CORRECTIVE ACTION**

Use the alternate MHD.





**PRM:F2xx-02xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F2da 02yy 0000 zzzz hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

Enabling hardware checks with an error source present.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Indicates which bit of the error register is active and that hardware checks are to be enabled.

z = Not used for this PRM. Disregard any non-zero value that may appear in these positions.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Replace the circuit packs associated with the error source.

**PRM:F2xx-0800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F2da 0800 0000 zzzz hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

A PINIT was unable to copy memory from the off-line processor to the on-line.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Not used for this PRM. Disregard any non-zero value that may appear in these positions.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

This PRM is only output if the system switches to an out-of-service CU and finds that the memory of the processor switched from is not accessible. The reason for the inaccessibility may be a powered down off-line CU, a faulty path to the off-line memory, or faulty off-line memory hardware. Since the newly on-line processor's memory is not up-to-date, PINIT will initiate a level 3 bootstrap to get fresh copies of all programs and the equipment configuration

data (ECD).

## **6. CORRECTIVE ACTION**

None.

**PRM:F2xx-09xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F2da 09yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

PINIT encountered non-correctable memory error while copying memory from the off-line control unit (CU) to the on-line CU after a stop and switch (SAS).

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Type of memory errors. Valid values are:

00 = Other store C.

01 = Other store time-out.

z = Physical block start address where the error occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

Microcode detected other store C (two bit parity failure) or other store time-out error while copying a block of memory starting with the address indicated by variable *z*; it completed copying the requested memory block and then notified PINIT of the error. PINIT then prints the failing PRM and initiates a level 3 boot on the switched to CU (panic code 9).

## 6. CORRECTIVE ACTION

Diagnose the off-line CU and replace the faulty memory board(s).

**PRM:F2xx-0Fxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F2da 0Fzz 0000 0000 hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

PINIT detected a failure during off-line boot (OFLBOOT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = OFLBOOT failure status. Valid values are:

01 = During OFLBOOT, the on-line side is having some problem, and therefore it is no longer administering the off-line side sanity timer. As a result, the off-line exceeds the maximum number of maintenance reset functions (MRFs) allowed. OFLBOOT will be aborted, and the system will recover on the off-line side with at least RTR initialization level 3.

02 = During OFLBOOT, the off-line side detected a re-initialization. The off-line side will be halted, because either the RETROFIT option has been set, or the number



of initializations has not reached the maximum allowed for taking a recovery action.

- 03 = During OFLBOOT, the off-line side detected an unexpected phase 1 initialization; as a result, the off-line side will be halted.
- 04 = The on-line side detected a boot strap initialization. As a result, OFLBOOT will be aborted and system will recover on the on-line side.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

This is an informational PRM.

## 6. CORRECTIVE ACTION

None.

**PRM:F2xx-2100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F2da 2100 0000 yzzz hh hh hh

**2. PRM SOURCE**

Processor initialization (PINIT).

**3. FUNCTION**

Channel error during programmed input/output system generation (I/O SYSGEN) command to disk.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

yzzz = Channel status. The channel status consists of 13 bits which are the least significant bit of variable y along with the remaining bits in variable zzz.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The SYSGEN programmed I/O command was being sent to the boot device(s) during execution of the PINIT when a channel failure was detected. The peripheral interface controller (PIC) or the bus interface controller (BIC) of the disk file controller (DFC) was found to be faulty. The PINIT process was attempting to write the PANICDUMP data to

the boot device(s) when the error occurred.

## **6. CORRECTIVE ACTION**

Run diagnostics on CU and the appropriate DFC and replace the faulty hardware as indicated by diagnostics.

**PRM:F3xx-0100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 0100 0000 yzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Initializing the bus interface controller (BIC) of the boot disk file controller (DFC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

yzzz = Dual serial channel (DSCH) status.

**NOTE:** DSCH status consists of 13 bits which are the least significant bit of variable y along with all bits of variable zzz.

(Refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for the DSCH status layout.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## **5. EXPLANATION**

The BIC associated with the boot device is being initialized. This device connects to DSCH 11 of direct memory access controller 0 (DMAC 0). The channel reported a failure.

## **6. CORRECTIVE ACTION**

Start replacing the associated DMAC DSCH circuit pack, the duplex dual serial bus selector (DDSBS) pack of the DFC, and the BIC of the DFC, in the order listed, until the repair is made and the system boots. In the small computer system interface (SCSI)-DFC, the BIC is part of the host adapter circuit packs of the DFC.

**PRM:F3xx-0200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 0200 0000 yzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Initializing the peripheral interface controller (PIC) of the boot disk file controller (DFC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

yzzz = Dual serial channel (DSCH) status.

**NOTE:** DSCH status consists of 13 bits which are the least significant bit of variable y along with all bits of variable zzz. (Refer to the APP:DSCH-STAT appendix in the Appendixes section of the PRM manual for the DSCH status layout.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The PIC associated with the boot device is being initialized. This device connects to DSCH 11 of direct memory access controller 0 (DMAC 0). The channel reported a failure.

## **6. CORRECTIVE ACTION**

Start replacing the associated DMAC DSCH circuit pack, the duplex dual serial bus selector (DDSBS) pack of the DFC, the bus interface controller (BIC) and the PIC of the DFC, in the order listed, until the repair is made and the system boots.

In the small computer system interface (SCSI)-DFC, the BIC and PIC are part of the host adapter circuit boards of the DFC.

**PRM:F3xx-0300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 0300 0000 zzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Initializing the peripheral interface controller (PIC) for the boot disk file controller (DFC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Bus interface controller (BIC) status. (Refer to the APP:BIC-STAT appendix in the Appendixes section of the PRM manual for BIC status.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The PIC associated with the boot device is being initialized.

**6. CORRECTIVE ACTION**



The PIC or the BIC of the boot DFC is faulty. Replace these circuit packs, in the order given, until a repair is made and the system is able to boot.

In the small computer system interface (SCSI)-DFC, the BIC and PIC are part of the host adapter circuit boards of the DFC.

**PRM:F3xx-0400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 0400 0000 0yzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Failed to find the disk volume table of contents (VTOC) entry for the partition that contains the file being loaded.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Structure element number of the file if the file being loaded is a boot time database file. (Disregard this digit if the file being loaded is a root file.)

z = Disk partition. Valid values are:

| If "z" = | Then the partition = |
|----------|----------------------|
| 03       | ROOT                 |
| 06       | ECD                  |
| 07       | ETC                  |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

Block 0 on each disk is the VTOC for that disk. The VTOC is searched to locate the entry for the partition that contains the file that is now to be loaded. One of these files is the root file and is associated with the software release that is being used to boot either the current software release or the backup software release. The VTOC search was not successful because of a bad entry or entries. Examples of boot time databases are the data portions of the equipment configuration data (ECD) and the plant measurements library. The boot time structure element number is defined as "0" for BTDB\_ECD and "1" for BTDB\_PLM.

## 6. CORRECTIVE ACTION

If there is a backup system on the disk, try booting from the software release not currently being used. If this is successful, the VTOC can be restored using the procedure for restoring mutilated disk files. If this is not successful or if there is no backup system on the disk, use the office procedure for restoring mutilated disks.

**PRM:F3xx-0500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 0500 0000 0yzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Boot root file or boot time data base file not located.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Contains the structure element number for a boot time database file.

z = Disk partition. Valid values are:

| If "z" = | Then the partition = |
|----------|----------------------|
| 03       | ROOT                 |
| 06       | ECD                  |
| 07       | ETC                  |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## **5. EXPLANATION**

The directory for the ROOT system being used to boot is searched for the boot image file or a boot time database file. The directory can consist of many blocks, and the addresses to locate these blocks are contained in the inodes for the ROOT system. Some of the addresses point directly to directory blocks while others point to directory blocks indirectly. The boot file and the boot time database files must be located using direct addresses. This failure indicates that the root or a boot time database file were not located using direct addresses. The directory for the ROOT system is faulty. Examples of boot time databases are the data portions of the equipment configuration data (ECD) and the plant measurements library.

## **6. CORRECTIVE ACTION**

Try booting the system on the other ROOT system (backup if current was being used or vice versa) if it is equipped, or use the other mode (minimum configuration if normal was being used or vice versa).

**PRM:F3xx-0600****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 0600 0000 0yzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Boot root file or boot time database file not located.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Structure element number for a boot time database file.

z = Disk partition. Valid values are:

| If "z" = | Then the partition = |
|----------|----------------------|
| 03       | ROOT                 |
| 06       | ECD                  |
| 07       | ETC                  |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

The directory for the ROOT system being used to boot is searched for the boot image file or a boot time database file. If any one of these files is not located, this failing condition occurs. The names of the boot file and the equipment configuration database (ECD) are /appdmert and /appecd or /dmert and /ecd for a normal system boot and a minimum configuration system boot, respectively. The name of the file in ETC is specified in the header that is part of the boot image. The directory for the ROOT system is faulty. Examples of boot time databases are the data portions of the ECD and the plant measurements library.

## 6. CORRECTIVE ACTION

Try booting the system on the other ROOT system (backup if current was being used or vice versa) if it is equipped, or use the other mode (minimum configuration if normal was being used or vice versa).

**PRM:F3xx-07xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 07yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Big boot encountered non-correctable memory error while copying memory from the off-line control unit (CU) to the on-line CU after a stop and switch (SAS).

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Type of memory errors. Valid values are:

00 = Other store C.

01 = Other store time-out.

z = Physical block start address where the error occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.



## 5. EXPLANATION

Microcode detected other store C (two bit parity failure) or other store time-out error while copying a block of memory starting with the address indicated by *z*; it completed copying the requested memory block and then notified Big Boot of the error. Big boot then prints the failing PRM and initiates a level 3 boot on the switched to CU (panic code 7).

## 6. CORRECTIVE ACTION

Diagnose the off-line CU and replace the faulty memory board(s).

**PRM:F3xx-09xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 09xx yzzz zzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Disk data is faulty.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Disk partition. Valid values are:

| If "x" = | Then the partition = |
|----------|----------------------|
| 03       | ROOT                 |
| 06       | ECD                  |
| 07       | ETC                  |

y = Boot time database structure element number.

z = Size of the file in bytes as specified in the inode for that file.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## **5. EXPLANATION**

The size of the boot file as specified in the inode is compared with the size of the boot file as specified in the boot header. The size of a boot time database file, as specified in the inode, is compared with the size specified in the file itself. This failing condition occurs when these two numbers disagree. Examples of boot time databases are the data portions of the equipment configuration data (ECD) and the plant measurements library.

## **6. CORRECTIVE ACTION**

If the system will not boot from either boot device, try booting on the other ROOT system (backup if current was being used or vice versa), if equipped, or the other configuration (minimum if normal was being used or vice versa).

**PRM:F3xx-1000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 1000 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Disk data faulty.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Computed equipment configuration database (ECD) load address.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The computed ECD load address is compared to the ECD load address specified in the boot header. The two addresses do not agree.

**6. CORRECTIVE ACTION**

If the system will not boot from either boot device, try booting on the other ROOT system (backup if current was being used or vice versa), if equipped, or the other configuration (minimum if normal was being used or vice versa).

**PRM:F3xx-2000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 2000 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Page table initialization routine called with invalid parameter.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Number of page table entries the routine was called with.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

There can be from 1 to 64 entries in a page table. The initialization routine was called to initialize an illegal number of entries. The number of entries was determined from the inode corresponding to the file that is to be loaded.

**6. CORRECTIVE ACTION**

The file being loaded must be contiguous. If the system will not boot from either boot device, try booting on the other ROOT system (backup if current was being used or vice versa), if equipped, or the other configuration (minimum if normal was being used or vice versa).

**PRM:F3xx-21xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 21ww x000 yzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Channel error during programmed input/output system generation I/O SYSGEN command to disk.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Disk partition. Valid values are:

| If "w" = | Then the partition = |
|----------|----------------------|
| 03       | ROOT                 |
| 06       | ECD                  |
| 07       | ETC                  |

x = Structure element number for a boot time database.

yzzz = Channel status, which is 13 bits. This is made up of the least significant bits of variable y along with all bits of variable zzz.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section



of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The SYSGEN programmed I/O command was being sent to the boot device when a channel error was detected. The peripheral interface controller (PIC) or the bus interface controller (BIC) of the boot disk file controller (DFC) is faulty. Examples of boot time databases are the data portions of the equipment configuration data (ECD) and the plant measurements library.

## **6. CORRECTIVE ACTION**

Replace the PIC or the BIC, in the order given, until a repair is made and the system is able to boot.

In the small computer system interface (SCSI)-DFC the BIC and PIC are part of the host adapter circuit boards of the DFC.

**PRM:F3xx-22xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 22uu www xy0z hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Disk job failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

u = Disk completion code. Refer to the "DFC Error Codes" and "Conditional Success Codes" exhibits, in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750.

Look first for this two-digit entry in exhibit 1. If you do not find this value in exhibit 1, look in exhibit 2.

w = Disk status. Refer to the "MHD STATUS LAYOUT" exhibit in the APP:DFC-C appendix in the Appendixes section of the Output Messages manual, 235-600-750.

To use this information, first break down each hexadecimal digit represented by a single w in the PRM format into its bit pattern. Then match the individual bit with its counterpart in bits 16-31 in the "MHD STATUS LAYOUT" exhibit.

x = Valid values are:

| If "y" =      | "x" =                                                                                                                                                                                      |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1             | Job ID 0 failure data. For an explanation of this code, go to "Autonomous Reports" exhibit in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. |
| Anything else | Not used.                                                                                                                                                                                  |

y = Flag telling whether the value at x has meaning or not. If y equals any other value than 1, ignore it.

z = Disk file controller (DFC) being used.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The programmed input/output (I/O) boot command was sent to the DFC. The disk job was not done successfully.

## 6. CORRECTIVE ACTION

The following disk completion codes indicate a DFC failure so the DFC circuit packs should be replaced, one at a time, until the repair is made:

|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 81 | 9F | A1 | 9D | B3 | BF |
| 99 | 9B | B1 | AF | A3 |    |

The following disk completion codes indicate an MHD failure, and the repair procedures for MHDs should be followed:

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 83 | 85 | 89 | 8B | 8D | 8F | 91 | 93 | 95 | 97 |
| A7 | A9 | AB | AD | B5 | BB | BD | C1 | C3 | C5 |
| C7 | C9 | CB | CD | CF | D1 | D3 |    |    |    |

The following disk completion codes indicate either a DFC failure or an MHD failure:

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 8B | A7 | A9 | AB | AD | AF | BB |    |    |    |
| C1 | C3 | C5 | C7 | C9 | CB | CD | CF | D1 | D3 |

In this case, replace the circuit packs in the DFC that are associated with disk data error checking. If the failure is not corrected, follow the repair procedures for an MHD failure. Disk completion code B7 indicates a failure in the direct memory access (DMA) circuitry or the associated channel circuitry and these circuits should be replaced, one at a time, until the repair is made.

**PRM:F3xx-3100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 3100 0000 0000 hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Faulty equipment configuration database (ECD).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The ECD does not contain a unit control block (UCB) for main store controller 0 (MASC0).

**6. CORRECTIVE ACTION**

Boot the machine using the other software release (backup if the current one is being used or vice versa), if equipped, or the other mode (minimum configuration if normal is being used or vice versa). Once the system is

running, the faulty ECD file can be replaced.

**PRM:F3xx-3200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 3200 0000 0000 hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Faulty equipment configuration database (ECD).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The unit control block (UCB) for main store controller 0 (MASC0) contains a memory array version that is not legitimate. This information is in the mv member of the UCB.

**6. CORRECTIVE ACTION**

Boot the machine using the other software release (backup if the current one is being used or vice versa), if

equipped, or the other mode (minimum configuration if normal is being used or vice versa). Once the system is running, the faulty ECD file can be replaced.

**PRM:F3xx-3300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 3300 0000 0000 hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Faulty equipment configuration database (ECD).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The unit control block (UCB) for main store controller 1 (MASC1) contains a memory array version that is not legitimate. This information is in the mv member of the UCB.

**6. CORRECTIVE ACTION**

Boot the machine using the other software release (backup if the current one is being used or vice versa), if



equipped, or the other mode (minimum configuration if normal is being used or vice versa). Once the system is running, the faulty ECD file can be replaced.

**PRM:F3xx-340x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 340y zzzz zzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Failure occurred during the read operation of the maintenance registers in the on-line memory controller. This is being done to determine the amount of memory available.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = sequence number in accessing the main memory registers. Valid values are:

1 = Error in accessing the main memory status register.

2 = The data in the status register indicated that none of the 8 banks of memory is present.

3 = Error in accessing the bank boundary register.

z = Valid values are:

| If "y" = | "z" =                                    |
|----------|------------------------------------------|
| 1        | Contents of the main memory register.    |
| 2 or 3   | Contents of main memory status register. |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the User Guidelines for definitions of the digits.

## 5. EXPLANATION

During bog boot, the amount of available memory must be determined. This PRM indicates a problem occurred while reading hardware registers located in the memory controller on the main memory circuit pack (KLW32). The appropriate bits in the PRM will indicate the error that occurred.

## 6. CORRECTIVE ACTION

This PRM indicates a severe problem in the main memory hardware. Replace the main memory circuit pack (KLW32).

If this PRM continues to print after the memory pack has been replaced, replace the central control circuit pack (KLW31). If this does not solve the problem, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F3xx-3500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 3500 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Insufficient main memory in the on-line control unit (CU).

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = The address of the last available byte of memory as computed by reading the various maintenance registers located in the main memory circuit pack.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

During big boot, the amount of available memory must be determined. This PRM is printed when the memory bank registers, located in the memory controller logic on the main memory circuit pack (KLW32), indicate insufficient memory is available to load the operating system (that is, less than 8 megabytes).

## **6. CORRECTIVE ACTION**

This PRM indicates a severe problem in the main memory hardware. Replace the main memory circuit pack (KLW32).

If this does not solve the problem, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F3xx-5300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 5300 0000 0000 hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Big boot failed to read the boot image from disk.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for digit definitions.

**5. EXPLANATION**

The boot image being read by big boot was created with a version of sgen that is not compatible with the version of big boot currently being used.

**6. CORRECTIVE ACTION**

To recover from this problem boot on the backup root from the emergency action interface (EAI) page.



**PRM:F3xx-63x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F3da 63y0 zz00 0000 hh hh hh

**2. PRM SOURCE**

Big boot.

**3. FUNCTION**

Disk job timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = The disk file controller (DFC) being used. Valid values are:

0 = DFC 0 is being used.

1 = DFC 1 is being used.

z = Additional information about the problem that caused this PRM to print. Definitions of these digits may be found in the APP:BBOOT-PRM appendix in the Appendixes section of the PRM manual, BBOOT PRM Hexadecimal Codes and Descriptions.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section



of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The DFC did not complete a disk job within 4 seconds.

## **6. CORRECTIVE ACTION**

Replace circuit boards associated with DFC. If this does not correct the problem, replace direct memory access (DMA) boards.

**PRM:F4xx-0100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0100 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

System process not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Process number of the special process which could not be created.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

A special process could not be created because the required dispatcher control table entry was missing.

**6. CORRECTIVE ACTION**

Check the database parameter that specifies the number of dispatcher control table slots. Reboot the system with a different load.

**PRM:F4xx-0200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0200 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Boot kernel process not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Process number of the kernel process which could not be created.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

A kernel process could not be created because the kernel process control block (KPCB) segment could not be added to the kernel address space. This was due to a poor selection of one of the memory management control table parameters supplied to system generation (SYSGEN).

## **6. CORRECTIVE ACTION**

Check the database parameters that specify the number of pages, segments, and page tables. Reboot the system with a different load.

**PRM:F4xx-0300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0300 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Boot kernel process not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Process number of the kernel process which could not be created.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

A kernel process could not be created because the kernel process control block (KPCB) segment supplied by system generation (SYSGEN) for the process did not have the first segment list entry flagged as a KPCB segment. This was due to a malfunction in SYSGEN.

## **6. CORRECTIVE ACTION**

Investigate recent modifications to the SYSGEN program. Reboot the system with a different load.

**PRM:F4xx-0400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0400 yy00 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Boot kernel process not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Segment number.

z = Process number of the kernel process which could not be created.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A kernel process could not be created because the kernel process control block (KPCB) segment supplied by system generation (SYSGEN) for the process contained a segment list entry for an existing segment which is not in



the boot, not a database, and not protected application segment (PAS). This was due to a malfunction in SYSGEN.

## **6. CORRECTIVE ACTION**

Investigate recent modifications to the SYSGEN program. Reboot the system with a different load.

**PRM:F4xx-0500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0500 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Boot supervisor process not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Process number of the supervisor process which could not be created.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A supervisor process could not be created because the process control block (PCB) segment could not be added to the kernel address space. This was due to a poor selection of one of the memory management control table parameters supplied to system generation (SYSGEN).

## **6. CORRECTIVE ACTION**

Check the database parameters which specify the number of pages, segments, and page tables. Reboot the system with a different load.

**PRM:F4xx-0600****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0600 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Boot supervisor process not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Process number of the kernel process that could not be created.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

A supervisor process could not be created because the process control block (PCB) segment supplied by system generation (SYSGEN) for the process did not have the first segment list entry flagged as a PCB segment. This was due to a malfunction in SYSGEN.

## **6. CORRECTIVE ACTION**

Investigate recent modifications to the SYSGEN program. Reboot the system with a different load.

**PRM:F4xx-0700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0700 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Boot time message allocation.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The initialization message sent to the process manager could not be allocated. This was due to a poor selection of the number of message block parameters supplied to system generation (SYSGEN).

**6. CORRECTIVE ACTION**

Check the database parameter that specifies message blocks. Reboot the system with a different load.



**PRM:F4xx-0800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0800 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Boot time message allocation.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The initialization message sent to the file manager could not be allocated. This was due to a poor selection of the number of message block parameters supplied to system generation (SYSGEN).

**6. CORRECTIVE ACTION**

Check the database parameter that specifies message blocks. Reboot the system with a different load.





**PRM:F4xx-0900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0900 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Boot time message allocation.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

One of the boot PCREATE messages sent to the process manager (PMGR) could not be allocated. This was due to a poor selection of the number of message block parameters supplied to system generation (SYSGEN).

**6. CORRECTIVE ACTION**

Check the database parameter that specifies message blocks. Reboot the system with a different load.



**PRM:F4xx-0A00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0A00 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Boot segment not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Index into the bootab.bt\_seg[ ] array for the segment which was not created.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

One of the system generation (SYSGEN)-specified boot segments could not be created due either to a SYSGEN error or a poor selection of memory management control block parameters passed to SYSGEN.

**6. CORRECTIVE ACTION**

Investigate recent modifications to the SYSGEN program and examine the SYSGEN results file. Check the database parameters that specify pages, segments, and page tables. Reboot the system with a different load.

**PRM:F4xx-0B00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0B00 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Message segment not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Flag that indicates which message segment was not created. Valid values are:

00 = KMSG segment.

01 = MSGEXT segment.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

One of the message handling segments was not created. This was due to a poor selection of memory management control block parameters passed to system generation (SYSGEN).

## **6. CORRECTIVE ACTION**

Check the database parameters that specify pages, segments, and page tables. Reboot the system with a different load.

**PRM:F4xx-0C00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0C00 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Dispatcher control segment not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Flag that indicates which dispatcher segment was not created. Valid values are:

00 = The dispatcher control table (DCT) segment.

01 = The DCTEXT segment.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**



One of the dispatcher control segments was not created. This was due to a poor selection of memory management control block parameters passed to system generation (SYSGEN).

## **6. CORRECTIVE ACTION**

Check the database parameters that specify pages, segments, and page tables. Reboot the system with a different load.

**PRM:F4xx-0D00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0D00 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Interrupt stack segment not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The interrupt stack segment was not created. This was due to a poor selection of memory management control block parameters passed to system generation (SYSGEN).

**6. CORRECTIVE ACTION**

Check the database parameters that specify pages, segments, and page tables. Reboot the system with a different

load.

**PRM:F4xx-0E00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0E00 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

System port segment not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The system port segment was not created. This was due to a poor selection of memory management control block parameters passed to system generation (SYSGEN).

**6. CORRECTIVE ACTION**

Check the database parameters that specify pages, segments, and page tables. Reboot the system with a different

load.

**PRM:F4xx-0F00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 0F00 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Boot process not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Process number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

One of the boot processes failed to be created correctly.

**6. CORRECTIVE ACTION**

Examine the system generation (SYSGEN) results file for inconsistencies. Reboot the system with a different load.

**17. F4xx-1000 — F8xx-FFFF**



**PRM:F4xx-1000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1000 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Protected application segment (PAS) not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Number of segments successfully created for PAS before the failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

One of the segments required for the PAS was not created. This was due to a poor selection of memory management control block parameters passed to system generation (SYSGEN).

**6. CORRECTIVE ACTION**

Check the database parameters that specify pages, segments, and page tables. Reboot the system with a different load.

**PRM:F4xx-1100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1100 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Kernel segment table not created.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Number of kernel segments successfully put into the table and also are an index into the bootab.bt\_nseg[ ] array.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The kernel segment table could not be completely created due to some access permission problems.

**6. CORRECTIVE ACTION**

Check the system generation (SYSGEN) results file to see the definitions of the kernel segments. Reboot the system with a different load.

**PRM:F4xx-1200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1200 yy00 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Protected application segment (PAS) too big.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = PAS section. Valid values are:

00 = Low PAS.

01 = High PAS.

z = Number of segments requested for PAS.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The number of segments required to fulfill the requested size for the PAS exceeds its maximum engineered size due to a poor selection of PAS size parameters passed to system generation (SYSGEN).

**6. CORRECTIVE ACTION**

Check the database parameter that specifies PAS size. Reboot the system with a different load.

**PRM:F4xx-1300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1300 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

KBOOT work segment not allocated.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

The work segment KBOOT uses to read in boot time public libraries could not be created. This was due to a poor selection of memory management control block parameters passed to system generation (SYSGEN).

**6. CORRECTIVE ACTION**

Check the database parameters that specify pages, segments, and page tables. Reboot the system with a different

load.



**PRM:F4xx-1400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1400 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Unable to complete a boot process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Process number of the boot process could not be completed.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

While trying to add a public library to the address space of a boot process, it was determined that there were no available segment list entries. This was due to a version mismatch between the process and one or more of its required public libraries.

## **6. CORRECTIVE ACTION**

Examine pfile header listings for the indicated process and all of its required libraries to see if more than 128 segments have been requested. Reboot the system with a different load.

**PRM:F4xx-1500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1500 yy00 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Unable to complete a boot process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Segment index in dispute.

z = Process number of the boot process which could not be completed.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

While trying to add a public library to the address space of a boot process, it was determined that there was more than one request for the same segment index. This was due to a version mismatch between the process and one or

more of its required public libraries.

## **6. CORRECTIVE ACTION**

Examine pfile header listings for the indicated process and all of its required libraries to see if more than one request has been made for the same segment. Reboot the system with a different load.

**PRM:F4xx-1600****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1600 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Unable to read public library.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Number of public libraries found.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

One or more of the boot time public libraries were not found in direct address directory blocks.

**6. CORRECTIVE ACTION**

Reboot the system with a different load, and examine the root directory to ensure that all boot public libraries are contained within direct block addresses.

**PRM:F4xx-1700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1700 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Unable to read public library.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Number of public libraries found.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

One or more of the boot time public libraries were not found in the root directory.

**6. CORRECTIVE ACTION**

Reboot the system with a different load and examine the root directory to ensure that all boot public libraries are present.



**PRM:F4xx-1800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1800 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Unable to read public library.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Number of public libraries found.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

One or more of the boot time public libraries had invalid inodes in the root directory.

**6. CORRECTIVE ACTION**

Reboot the system with a different file system.

**PRM:F4xx-1900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1900 yy00 00zz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Unable to allocate public library segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Index into the library header 1\_seg array.

z = Index into the boot table bt\_libpath array.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

**5. EXPLANATION**

Unable to allocate a segment for a public library either because the library header was invalid or because of a poor selection of the memory management control block parameters passed to system generation (SYSGEN).

## **6. CORRECTIVE ACTION**

Examine the public library to see if the indicated segment is specified correctly. If so, check the database parameters for the number of pages, segments, and page tables. Reboot the system with a different load.

**PRM:F4xx-1A00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1A00 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Disk read timeout.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

More than 4 seconds elapsed waiting for a disk read to complete.

**6. CORRECTIVE ACTION**

If repeated attempts to boot fail, try switching to an alternate disk drive. Reboot the system.



**PRM:F4xx-1B00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1B00 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Disk read failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A disk read system generation (SYSGEN) command failed.

**6. CORRECTIVE ACTION**

If repeated attempts to boot fail, try switching to an alternate disk drive. Reboot the system.





**PRM:F4xx-1C00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1C00 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Disk read failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A disk read completed but returned a failure condition.

**6. CORRECTIVE ACTION**

If repeated attempts to boot fail, try switching to an alternate disk drive. Reboot the system.



**PRM:F4xx-1F00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 1F00 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Unable to create segment for memory management data.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

During system creation, the data segment used to contain the memory manager hole descriptor table could not be created.

Routine: Kboot- crkdym.

**6. CORRECTIVE ACTION**

Reboot the system.

**PRM:F4xx-2000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F4da 2000 zzzz zzzz hh hh hh

**2. PRM SOURCE**

Kernel boot (KBOOT).

**3. FUNCTION**

Swapsize is less than minswsz.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = The amount that minswsz exceeds swapsize.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Before KBOOT completes, a check is made to see if the amount of swappable memory is less than the minimum required. If so, this PRM is issued.

**6. CORRECTIVE ACTION**

Check the database parameters that might alter the amount of swappable memory and change them as required. Protected application segment (PAS) may be too large (field 19 in sgen1 form of recent change verify [RCV]), or more pages may be required (field 7 in sgen1 form). More physical memory may be required.

**PRM:F5xx-01xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 01xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

The library function, lla\_rdget, returned an error after trying to access the equipment configuration data base (ECD).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within the function) at which lla\_rdget returned an error.

z = Reason code for the hard switch as follows:

55 indicates that the hard switch was caused by manually forcing the active CU off line. C4, C5, C8 and C9 are CONFIG process fault codes defined in the APP:PROC-FAULT appendix in the Appendixes section of the PRM manual. E6 indicates that the hard switch was due to entering disk independent operation (DIOP).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for the definition of these digits.

## 5. EXPLANATION

This PRM message indicates that no data was found for the specified record identifier in the ECD. Hence, this error implies that the ECD could be corrupted.

## 6. CORRECTIVE ACTION

Run the ECD audit for the incore database using the AUD:ECD input message. Refer to the Input Messages manual, 235-600-700.

If the system is in the OFF-LINE BOOT mode, stop it using the STOP:OFLBOOT input message and then run the ECD audit.



**PRM:F5xx-02xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 02yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure to attach to the equipment configuration database (ECD).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number at which the EIH failed to attach to the ECD.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Failure to attach to the ECD indicates that EIH cannot get information about the configuration of the machine.

Without this information, EIH will not function and the machine will probably not come up. It also indicates that the ECD has been mutilated.

The bootstrap level is automatically escalated using the phase call.

## **6. CORRECTIVE ACTION**

None.

**PRM:F5xx-03xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 03yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

lla\_uprid returned an error condition.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and requires a system phase.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function) lla\_uprid returned an error.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An error was returned when searching the equipment configuration database (ECD) via the lla\_uprid command. This indicated that a previously obtained record could not be updated in the ECD. Hence this error implicates the sanity of the database. The machine may function properly for some time, and normal operations (such as switching CUs) may remove the problem. It may also indicate imminent failure.

## **6. CORRECTIVE ACTION**

Try the backup root partition.

If the system is in the OFF-LINE BOOT mode, stop it using the STOP:OFLBOOT input message and then run the ECD audit.

**PRM:F5xx-0Fxx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 0Fxx yyyy 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

"sendmch" returned a failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = Line number (within the function) where "sendmuch" returned a failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A failure was encountered in attempting to send a maintenance channel command to the off-line processor.

## **6. CORRECTIVE ACTION**

Diagnose the faulty processor and check the maintenance channel cables.

**PRM:F5xx-10xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 10yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Improper boot device.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = The boot device moving head disk (MHD) was found to have a non-bootable equipment configuration database (ECD) state.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The device used to bootstrap the system, as indicated in the PRM, was marked unavailable or off-line in the ECD and hence should not be used as a boot device. A phase 1 was issued to force escalation and selection of another boot device.

## **6. CORRECTIVE ACTION**

If this PRM persists, force the opposite boot device MHD.



**PRM:F5xx-12xx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 12xx 0000 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

The "lla\_get" function failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

In searching the equipment configuration database (ECD) using the "lla\_get" command, an error was returned. This indicates that no data was found for the specified record identifier and thus the record identifier and the data requested are garbage. Hence, this error implicates the sanity of the database. The machine may function properly

for some time, and normal operations (such as switching control units [CUs]) may remove the problem. It may also indicate imminent failure.

## **6. CORRECTIVE ACTION**

Run the ECD audit for the incore memory database using the input message: `AUD:ECD 1`. Refer to the AUD:ECD input message in the Input Messages manual (235-600-700) for more information on using this audit.

If the system is in off-line boot mode, stop it, and then run the ECD audit.

**PRM:F5xx-13xx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 13xx yyyy 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Direct memory access controller (DMAC) channel initialization returned a failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = Line number where the error interrupt handler DMAC initialization routine returned a failure.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A failure was returned from the DMAC random access memory (RAM) initialization routine. The DMAC RAM

initialization routine attempts to set the contents of the DMAC RAM to all 0s. A failure return indicates that an I/O time-out or I/O error occurred.

## **6. CORRECTIVE ACTION**

Diagnose the DMAC in the faulty control unit (CU).

**PRM:F5xx-14xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 14yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

A phase will be called due to a fatal direct memory access (DMA) error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number (within function) at which the EIH called the phase operating system trap (OST).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The instruction immediately following the instruction which requested this PRM will be a phase OST call. The phase

is being requested due to a fatal DMA error.

## **6. CORRECTIVE ACTION**

Diagnose the DMA in the faulty CU.

**PRM:F5xx-1Axx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 1Axx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

The "stopdma" returned a failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = The location in the code where the failure occurred.

z = Cause of the error. Valid values are:

0xffff = Maintenance channel error.

0xfffe = Maintenance channel order timeout.

0xfffd = Maintenance channel response error.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

"stopdma" was unable to stop the direct memory access controller (DMAC).

## **6. CORRECTIVE ACTION**

Diagnose the DMAC in the faulty control unit and the maintenance channel. Check the maintenance channel cables.



**PRM:F5xx-1Bxx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 1Bxx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

"clrdschm" returned a failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = The location in the code where the failure occurred.

z = The channel number where the failure occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

"clrdschm" was unable clear the channel mask in the DSCH that indicates whether the channel is stopped or not.

## **6. CORRECTIVE ACTION**

Diagnose the faulty processor and channel.

**PRM:F5xx-1Cxx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 1Cxx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Unable to read the status of a channel.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = The location in the code where the failure occurred.

z = The channel number where the failure occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

| If y = | Explanation:                                                |
|--------|-------------------------------------------------------------|
| 0x026e | EIH could not read the interrupt status of channel z.       |
| 0x0272 | EIH could not read the service request status of channel z. |

## 6. CORRECTIVE ACTION

Diagnose the faulty processor and channel.

**PRM:F5xx-1Dxx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 1Dxx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Unable to restore interrupts to a channel.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = The location in the code where the failure occurred.

z = The channel number where the failure occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ElH is unable to restore interrupts for the channel specified by *z*. These interrupts were pending on the original active CU when the CUs switched. The failure occurred on the "new" active CU.

## **6. CORRECTIVE ACTION**

Diagnose the faulty processor and channel.

**PRM:F5xx-1Exx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 1Exx yyyy 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Unable to read the direct memory access controller (DMAC) RAM.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = The location in the code where the failure occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

EIH is unable to read the DMAC RAM.

## **6. CORRECTIVE ACTION**

Diagnose the DMAC in the faulty processor.



**PRM:F5xx-1Fxx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 1Fxx yyyy 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Unable to write the direct memory access controller (DMAC) RAM.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = The location in the code where the failure occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

EIH is unable to write the DMAC RAM.

## **6. CORRECTIVE ACTION**

Diagnose the DMAC in the faulty processor.

**PRM:F5xx-23xx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 23xx yyyy 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure to enable the direct memory access controller (DMAC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = Line number (within the function) where the EIH failed to enable the DMAC.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

After initializing the DMAC, the attempt to enable DMAC failed.

## **6. CORRECTIVE ACTION**

Diagnose the DMAC in the faulty control unit (CU).

**PRM:F5xx-25xx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 25xx yyyy 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

The dschmask operating system trap (OST) failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = Line number (within the function) where the EIH failed.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The kernel could not write the dual serial channel mask. If this error occurs during soft switch (refer to the function

numbers in the APP:EIH-FUNC Appendix), then the problem exists in the processor being switched to. The error may be with the channel hardware, or it may be a problem in the kernel.

## **6. CORRECTIVE ACTION**

If error occurred on soft switch, then diagnose the faulty processor. If the error occurred on the active control unit (CU), I/O may have been impaired. In this case, consider switching processors (if automatic recovery has not done so already), and diagnose the faulty CU.

**PRM:F5xx-26xx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 26xx yyyy 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Soft switch failure due to bad cache.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = Line number (within the function) where the soft switch attempt failed due to a cache problem.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

This error can occur during softswitch if the cache in the STBY processor is faulty.

## **6. CORRECTIVE ACTION**

Diagnose the faulty control unit (CU).



**PRM:F5xx-27xx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 27xx yyyy 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Soft switch failure due to time-out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = Line number (within the function) where the soft switch attempt failed due to a lack of response from the standby processor.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The processor being switched to did not respond in the required time-out interval. The on-line processor will abort the soft switch.

## **6. CORRECTIVE ACTION**

Diagnose the faulty processor.

**PRM:F5xx-28xx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da 28xx yyyy 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Soft switch failure - control unit was not in update mode.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = Line number (within the function) where the soft switch attempt failed because the control units were not in update mode.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The update bit in the system status register (SSR) (bit 19) was not asserted when the switch request was received. This bit must be asserted at the time of the switch request since the unasserted state indicates the main store of the standby processor is not in sync with the main store of the active processor.

## **6. CORRECTIVE ACTION**

Diagnose the faulty processor.

**PRM:F5xx-E2xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da E2yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Function call using a zero transfer vector.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number of the function in which EIH detected a zero transfer vector. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Program address from which the call was made.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An EIH function was called whose transfer vector was zero. The failure resulted in a system initialization.

## **6. CORRECTIVE ACTION**

None.

**PRM:F5xx-E3xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da E3xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Failure of the microstore pump to the off-line control unit (CU).

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = Line number (within the function) where the EIH off-line microstore pump failed.

z = Reason code for the hard switch as follows:

55 indicates that the hard switch was caused by manually forcing the active CU off line. Hex C4, C5, C8 and C9 are CONFIG process fault codes defined the APP:PROC-FAULT appendix in the Appendixes section of the PRM manual. Hex E6 indicates hard switch due to entering disk independent operation (DIOP).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

In the process of hard switching to the off-line processor, an error occurred in trying to pump the off-line microstore.

## **6. CORRECTIVE ACTION**

Check that the maintenance channel cables are properly connected and the CUs are powered up. If this output persist seek technical assistance. Refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.



**PRM:F5xx-E4xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da E4yy zzzz 0000 hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

A phase will be called due to the equipment configuration database (ECD) audit finding incorrect unit control block (UCB) data for direct memory access (DMA) or channel hardware.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

z = Line number at which incorrect data was found (EIH was notified).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The ECD audit detected incorrect data in UCB fields for hardware for which the EIH is responsible. Since the faulty data was for either a DMA or one of the channels, a phase will be called. The phase will most likely not correct the inconsistency in the ECD. The faulty data may cause phase escalation until new ECD data is read from disk.

## **6. CORRECTIVE ACTION**

The processor may continue functioning even though the data in the ECD contains errors. Some consideration should be given to bootstrapping the processor (level 3) as this will bring in a new database from disk.

**PRM:F5xx-E5xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da E5xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

A phase will be called to initiate a hard switch.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within the function) at which EIH called a phase.

z = Reason code for the hard switch as follows:

55 indicates that the hard switch was caused by manually forcing the active CU off line. C4, C5, C8 and C9 are CONFIG process fault codes, defined in the APP:PROC-FAULT appendix in the Appendixes section of the PRM manual. E6 indicates hard switch due to disk independent operation (DIOP).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

A decision has been made to hard switch to the off-line processor. The initialization sequence control (ISC) bits have been set for stop and switch (SAS), and the phase operating system trap (OST) call following this message will complete the hard switch.

## **6. CORRECTIVE ACTION**

Diagnose the faulty CU.

**PRM:F5xx-EAxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da EAxx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

An EIH function is executing on the on-line side during the off-line boot.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

If x identifies kfault(), EIH received a fault and a phase will follow.

If x identifies send\_mch\_int(), an automatic termination of off-line boot procedure will follow.

Other x values identify problems with growing a unit, moving it to out-of-service, or restoring it. Possible units are the maintenance teletypewriter (MTTY), receive only printer (ROP), switching control center (SCC), and synchronous signal distributor control (SCSDC).

y = Line number (within the function) at which EIH called a phase.

z = Not used.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

While administering off-line boot, the EIH in the on-line CU encountered an error in one of its functions.

## 6. CORRECTIVE ACTION

If the problem identified a particular unit and you want to restore it, issue the STOP:OFLBOOT input message before restoring the unit. Refer to the Input Messages manual, 235-600-700.

**PRM:F5xx-EDxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da EDxx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

An EIH function is executing on the off-line side during the off-line boot.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

y = Line number (within the function) at which EIH called a phase.

z = Error code generated by off-line boot indicating the cause of the PRM. Refer to the APP:OFLBOOT-ERR appendix in the Appendixes section of the PRM manual for information on interpreting the error code.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

If the problem occurs during an off-line boot, it results in a halt on the off-line side. When the maximum number of halts is exceeded a level 3 phase will occur on the off-line side. If the problem happens when switching sides, no automatic action is taken; however, the problem may result in both processors port switching receive-only printer (ROP) and maintenance teletypewriter (MTTY) devices.

## **6. CORRECTIVE ACTION**

If, during a side switch, you want to stop the continuing port switches of the ROP and MTTY, stop the off-line procedure using the STOP:OFLBOOT input message. Refer to the Input Messages manual, 235-600-700.



**PRM:F5xx-EFxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da EFww xxxx yyzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Offline boot is being terminated with an RTR level 3 initialization performed on the offline side if the RETROFIT option was not used, or a RTR level 4 initialization if the RETROFIT option was used.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Function number. Valid values are:

3A = During, or shortly after, the side switch, the new online side entered disk independent operation (DIOP). The system was automatically reconfigured through a boot back to the previous side because of the following reason(s):

- Recovering from DIOP will eventually require a user to boot.
- The offline boot procedure is intended for low traffic hours.
- User considerations may take a long time.

3B = At the end of the side switch process, it was found that the new online side had entered DIOP. Because the RETROFIT option was not specified, the system was automatically reconfigured through a boot back to the previous side.

56 = During a side switch, when trying to turn call processing off, or when trying to switch to the other CU, one of the following conditions was found:

- Could not read the offline system status register (SSR) to ensure the offline CU was running.
- The offline CU was found stopped.
- There were no disk hardware forces in the emergency action interface (EAI).
- The disk hardware forces in the EAI had been changed.

Because the RETROFIT option was specified, the system was automatically reconfigured through a boot forward to the intended new side.

68 = After the application printed the results of the side switch prechecks, it was found that the prechecks indicated a severe condition that prevented the side switch from being completed. Because the RETROFIT option was specified, the system was automatically reconfigured through a boot forward to the intended new side.

6A = After the side switch precheck results were received, EIH failed to copy the application precheck memory area to the online side, or EIH failed to send a message to the application to interpret the memory contents and print its precheck results. In either case, a severe condition was found in the offline side.

For more information, look at *y* and *z*. Because the RETROFIT option was specified, the system was automatically reconfigured through a boot forward to the intended new side.

6D = After the application timed out while printing the results of the side switch prechecks, it was found that the prechecks indicated a severe condition that prevented the side switch from being completed. Because the RETROFIT option was specified, the system was automatically reconfigured through a boot forward to the intended new side.

6F = During the side switch prechecks, a non-manual termination or abort of offline boot was initiated. Because the RETROFIT option was specified, the system was automatically reconfigured through a boot forward to the intended new side.

(Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for function names corresponding to the function numbers.)

*x* = Line number where error interrupt occurred in function number shown at *w*.

*y* = Error code when problem occurred because of an RTR condition in the offline side during side switch prechecks when the RETROFIT option was specified.

Refer to the APP:OFLBOOT-ERR appendix in the Appendixes section of the PRM manual for the error codes.

- z = Error code when problem occurred because of an application condition in the offline side during side switch prechecks when the RETROFIT option was specified. Valid values are:
- |    |                                                                           |
|----|---------------------------------------------------------------------------|
| 01 | = Offline side software error (no override).                              |
| 02 | = Offline side software error (may override, but no override is present). |
| 04 | = Offline side hardware error (may override, but no override is present). |
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

Offline boot is being terminated. This covers stopping the offline side, preparing the offline side for the initialization, initializing the offline side, and stopping the online side.

## 6. CORRECTIVE ACTION

In all cases, the system should recover automatically. When the function (<sub>ww</sub>) is 3A or 3B, the system should recover after a boot back to the old side.

The other function numbers can only occur for this PRM when the RETROFIT option was specified. In those cases the system will try to recover by booting forward to the new side.

For all functions, if the recovery fails, troubleshoot the new failing PRMs or failure symptoms. To determine the problem encountered by offline boot analyze the ROP and offline boot log (OLBLOG) files from both sides. This can take some time so the user is advised to save these materials.

**PRM:F5xx-F2xx****Software Release:** 5E11 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F5da F2xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Error interrupt handler (EIH).

**3. FUNCTION**

Reports the fields in the unit control block (UCB) of an alternate boot disk (ABD) that contain unexpected values.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Function number. (Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for the function names corresponding to the function numbers.)

y = An identifier in function number x where the PRM originated.

z = Additional information for determining the nature of the problem.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An error was returned when validating UCB data for the ABD.

| If y = | Reason for error:                                                                                                                                                                                             |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ad00   | The moving head disk (MHD) selected as the ABD is not configured under DFC 0 or DFC 1. Field <i>z</i> contains the unit number.                                                                               |
| ad01   | In traversing the UCB records for the ABD, EIH found an incorrect UCB data type. The UCB type field contains an invalid entry that should be changed to a DFC. Field <i>z</i> contains the <i>u_dtype</i> .   |
| ad02   | In traversing the UCB records for the ABD, EIH found an incorrect UCB data type. The UCB type field contains an invalid entry that should be changed to an SBUS. Field <i>z</i> contains the <i>u_dtype</i> . |
| ad04   | The SBUS bus device ID for the ABD in the UCB does not have the expected value. Field <i>z</i> contains the bus device ID.                                                                                    |
| ad05   | The MHD bus device ID for the ABD in the UCB does not have the expected value. Field <i>z</i> contains the bus device ID.                                                                                     |

This error implicates the integrity of the database. The machine may function properly for some time and normal operations [such as switching control units (CUs)] may remove the problem. It may also indicate imminent failure.

## 6. CORRECTIVE ACTION

| If y = | Correction:                                                                                                                                                                                                              |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ad00   | The ABD must be configured under DFC 0 or DFC 1, or another boot disk selection must be made. If the ABD is configured under DFC 0 or DFC 1, check the integrity of the database, in particular, for all DFC subdevices. |
| ad01   | Check the integrity of the database, in particular, for all DFC subdevices.                                                                                                                                              |
| ad02   | Check the integrity of the database, in particular, for all DFC subdevices.                                                                                                                                              |
| ad04   | Check the integrity of the database, in particular, for all DFC subdevices.                                                                                                                                              |
| ad05   | Check the integrity of the database, in particular, for all DFC subdevices.                                                                                                                                              |

Run the equipment configuration database (ECD) audit for the incore memory database using the AUD:ECD 1 input message. Refer to the AUD:ECD input message in the Input Messages manual (235-600-700) for more information about this audit.

**PRM:F6xx-100x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 100d xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Disk driver memory and data initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = First error encountered.

y = Second error encountered.

z = Third error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The disk driver was gathering information to build internal tables, initialize variables, attach to system resources, and so forth. One of the functions returned a failure. The failure may be the result of bad data or faulty hardware. Certain driver actions are based on data received from the equipment configuration database (ECD) and that data may be incorrect.

The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error is the actual failure; the second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. If software/data malfunction is implicated, the problem could be in ECD access, ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-20xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 20wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a disk file controller (DFC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = This value is found in the "internal\_device" field in the DFC's UCB record.

x = First error encountered.

y = Second error encountered.

z = Third error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## 5. EXPLANATION

The disk driver unit restore sequence involving the indicated DFC has failed. Moving head disk (MHD) hardware is not involved. Direct memory access controller (DMAC) or dual serial channel (DSCH) initialization may have failed. If this DFC is selected as part of the BOOT device complex, then the cause may be equipment configuration database (ECD) data. This is because the disk driver is the first software in the boot sequence to use ECD data in the accessing units. Prior to the disk driver, hard-coded addresses were used to access the DMAC and the DFC.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the 3B20 Computer recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the DMAC, DSCH, DSCH cable, or the circuit boards comprising the DFC. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-30xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 30wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value

t = SBUS internal\_device value

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 0 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-31xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 3lwx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 1 (DFC 1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value

t = SBUS internal\_device value

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 1 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-32xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 32wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 2 (DFC 2).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value

t = SBUS internal\_device value

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 2 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-33xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 33wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 3 (DFC 3).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value

t = SBUS internal\_device value



|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 3 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-34xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 34wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 4 (DFC 4).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value.

t = SBUS internal\_device value.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 4 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-35xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 35wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 5 (DFC 5).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value

t = SBUS internal\_device value

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 5 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-36xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 36wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 6 (DFC 6).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value.

t = SBUS internal\_device value.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 6 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-37xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 37wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 7 (DFC 7).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value.

t = SBUS internal\_device value.



|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = First error encountered.                                                                                                                            |
| y | = Second error encountered.                                                                                                                           |
| z | = Third error encountered.                                                                                                                            |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver restore sequence for the indicated MHD under DFC 7 has failed. The DFC, and the MHD's SBUS (if SCSI), has been successfully restored prior to this MHD restore attempt. The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered is the failure detected. The second and third errors are tracers indicating what function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI), restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-40xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 40xx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Disk driver memory initialization based on equipment configuration database (ECD) information.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = The 16 least significant bits of the ECD record identifier (RID) the disk driver was processing.

**NOTE:** the RID is in hexadecimal notation.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The disk driver was processing the specified RID which it got from the ECD. The RID is used to obtain a database record and the information in the record is used to extract other database records. The cntrl\_0 (l\_up0) field in the unit control block (UCB) record is used to traverse these records. Information in any of these records may have faulty data, but only the RID of the initial UCB record is output in the PRM.

If the specified RID is for a moving head disk (MHD), then the progression is from MHD to SBUS [if small computer system interface (SCSI)], to disk file controller (DFC). If the specified RID is for an SBUS, then the progression is from SBUS to DFC. If the specified RID is for a DFC, the progression is from DFC to channel (CH).

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

The first error is the actual error; the second and third errors provide more information that helps to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the 3B20 computer recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. If software/data malfunction is implicated, the problem could be in ECD access, ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-60x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 60w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of disk file controller (DFC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = This value is found in the "internal\_device" field in the DFC's unit control block (UCB) record.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to the DFC has been returned with a failing completion code. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the direct memory access controller (DMAC), dual serial channel (DSCH), DSCH cable, or the circuit board comprising the DFC. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-70x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 70w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 0 (DFC 0).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value.

t = SBUS internal\_device value.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = Job completion code.                                                                                                                                |
| y | = First error encountered.                                                                                                                            |
| z | = Second error encountered.                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver unit restore sequence for the indicated MHD under DFC 0 has failed. The DFC, and the MHD's SBUS (if SCSI) has been successfully restored prior to this MHD restore attempt. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI) restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-71x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 71w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 1 (DFC1).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and a system phase was required.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Internal device ID for the MHD being restored. For storage module device (SMD) MHDs, this value is found in the "internal\_device" field in the MHD's unit control block (UCB) record. For small computer system interface (SCSI) MHDs, this value is the combination of the "internal\_device" field values for the MHD and its associated SBUS. Variable w is a 4-bit value of the form: s s s t

s = MHD internal\_device value.

t = SBUS internal\_device value.



|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = Job completion code.                                                                                                                                |
| y | = First error encountered.                                                                                                                            |
| z | = Second error encountered.                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The disk driver unit restore sequence for the indicated MHD under DFC 1 has failed. The DFC, and the MHD's SBUS (if SCSI) has been successfully restored prior to this MHD restore attempt. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the administrative module (AM) recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

To correct the problem, if hardware is implicated, replace the faulty hardware using standard maintenance procedures. The hardware most likely at fault is the MHD, MHD cables, or SBUS (if SCSI). The DFC and its SBUS (if SCSI) restored successfully, but may be faulty in data transfer capability. If software/data malfunction is implicated, the problem could be in the ECD data (CH, DFC, SBUS, MHD UCB records), incompatible software, not enough driver memory or some lack of data integrity. Review and correct if possible. If necessary, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-72x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 72w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 2 (DFC2).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC2.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to DFC2 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard-coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:F6xx-73x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 73w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 3 (DFC3).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC3.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to DFC3 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard-coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:F6xx-74x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 74w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 4 (DFC4).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC4.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to DFC4 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard-coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:F6xx-75x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 75w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 5 (DFC5).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC5.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## 5. EXPLANATION

A disk driver job submitted to DFC5 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard-coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:F6xx-76x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 76w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 6 (DFC6).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC6.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to DFC6 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard-coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:F6xx-77x0****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 77w0 xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Restore sequence of a moving head disk (MHD) under disk file controller 7 (DFC7).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Device identifier (ID) of the MHD being restored. This MHD is a sub-device of DFC7.

x = Job completion code.

y = First error encountered.

z = Second error encountered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A disk driver job submitted to DFC7 has been returned with a failing completion code. The job was probably concerned with restoring to service the MHD with the indicated device ID. The job completion code is described in the APP:DFC-B appendix in the Appendixes section of the Output Messages manual, 235-600-750. A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750. The first error encountered describes the function being attempted by the submitted job. The second error describes what overall function was being attempted in the driver.

## 6. CORRECTIVE ACTION

Determine the trouble area from the PRM data. The problem may be the MHD hardware, cables, disk pack, or disk pack data. Equipment configuration database (ECD) data should be suspect if this drive is the selected boot device. The boot device has already been successfully accessed using hard coded device addresses. The disk driver uses addresses obtained from the ECD. The DFC may be faulty but it restored successfully. DFC may be faulty in data transfer capability. As a last resort, additional error data is present in the message buffers since all errors are sent to the error logger.

**PRM:F6xx-80xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da 80yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Disk driver fault code processing.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Fault code. Refer to the APP:DFC-I appendix in the Appendixes section of the Output Messages manual, 235-600-750.

z = Identifies the address where the fault was detected.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 for definition of the digits.

**5. EXPLANATION**

The operating system detected an execution exception while the disk driver was executing. The error interrupt handler (EIH) faulted the disk driver with a fault code (describing the exception) and a pointer to the saved state of

the administrative module (AM) (saving the state of the AM when the exception occurred). The driver reports the fault code and the virtual program address (from the saved state) in this PRM. The driver then requests a level 1 DMERT initialization.

## **6. CORRECTIVE ACTION**

Use the error codes to help determine the area causing the failure, hardware or software.

If the AM recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

There is no immediate corrective action. Save as much pertinent data as possible concerning the activity of the AM, maintenance requests, receive-only printer (ROP) printouts, logfiles, and so forth, and refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F6xx-F0xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F6da F0wx xxyy yzzz hh hh hh

**2. PRM SOURCE**

Disk driver.

**3. FUNCTION**

Disk driver is in the process of phasing the administrative module (AM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Reason for the phase. Refer to disk driver panic codes in the Postmortem Dump Process/Problem Identification Table found in the Corrective Maintenance Procedure Manual, 235-105-220.

x = First error encountered by the disk driver prior to requesting the phase. Refer to the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

y = Second error encountered. Refer to the APP:DFC-A appendix in the Appendix section of the Output Messages manual, 235-600-750.

z = Third error encountered. Refer to the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.



h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The disk driver has encountered a problem(s) which requires it to phase the AM.

- Excessive errors on an essential unit which cannot be recovered and disk independent operation is not enabled.
- An operating system detected execution exception.
- Configuration management failure.
- Phase is requested in order to initiate a new (changed) operating configuration.

The first error is the actual failure; the second and third errors provide more information that help to identify which driver operation was being attempted. The last error code specifically applies to this PRM. The other error code(s) may apply to previous error conditions.

A description of the error codes can be found in the APP:DFC-A appendix in the Appendixes section of the Output Messages manual, 235-600-750.

## 6. CORRECTIVE ACTION

Use the error codes to help determine the area causing the failure, hardware or software.

If the AM recovers from the problem reported in the PRM, then manual recovery is not required.

To recover manually, if hardware is implicated, select a different boot device and/or a different control unit. If data is implicated, select a different ECD and/or a different boot partition (primary/backup). If recovery procedures are unsuccessful, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

There is no immediate corrective action. Save as much pertinent data as possible concerning the activity of the AM, maintenance requests, receive only printer (ROP) printouts, logfiles, and so forth, and refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F7xx-0B0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F7da 0B0w xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

This PRM is printed out when the boot restore for the maintenance teletypewriter controller (MTTYC) failed during or after writing the pumpcode into the MTTYC. The IOP driver will try using the alternate pumpcode file name to restore the MTTYC.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified at variable d.

w = PRM format type. Valid values are:

0 = IOP driver format.

x = Indicates the IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

y = Unit number.

- z = Failure reason. Valid values are:
- 0009 = The pumpcode file name on the unit control block (UCB) record for the MTTYC may not be correct.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

None.

## 6. CORRECTIVE ACTION

Check the pumpcode file name on the UCB record in the equipment configuration database (ECD) for each of the MTTYCs and make sure that the information in fields 62, 63 and 64 matches the configuration of the machine. The field 62(t083/t983) should match the corresponding MTTYC hardware(TN83/TN983). The pumpcode file name is determined by concatenating fields 62(packcode), 64(version), and 63(issue). The pumpcode file should exist in the /iop/pccode directory.

If the pumpcode file name is correct, make sure the correct pumpcode file is installed on the machine.

This PRM may also be the result of a faulty MTTYC.

**PRM:F7xx-0C0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F7da 0C0x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

This PRM is printed out when the boot restore for the IOP failed during or after pumping the pumpcode stage: The IOP driver will try using a hardcoded alternate pumpcode file name to restore the IOP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified at variable d.

x = Indicates the IOP device type (refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

y = Unit number.

z = Failure reason. Valid values are:

0009 = The pumpcode file name on the unit control block (UCB) record for the IOP may not be correct.

000a = The hardcoded primary pumpcode file is incorrect or corrupted.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

None.

## 6. CORRECTIVE ACTION

Check the pumpcode file name on the UCB record in the equipment configuration database (ECD) for the IOP and make sure that the information in fields 62, 64 and 63 matches the configuration of the machine.

The pumpcode file name is determined by concatenating fields 62 (packcode), 64 (version), and 63 (issue):

- Field 62 (packcode) must always be k010
- Field 64 (version) must always be 00
- Field 63 (issue) must always be 01

**NOTE:** When these three fields are left blank, the software interprets them as 0's. Also, 0's are prepended to the value when the field is not completely filled. Field 62 is a four position field while fields 63 and 64 are two position fields. For example, these three fields populated with the above are interpreted by the software as k010, 00, and 01 and when concatenated become k0100001.

Two copies of the pumpcode files are stored on the disk in the /iop/pccode directory. The primary pumpcode file is k0100001 and the backup version of the pumpcode file is k0100000.

During the restore of the IOP, the input/output driver (IODRV) constructs the pumpcode filename from the database and pumps the IOP. If this restore fails, the IODRV prints the PRM with failure reason 0009. Verify that fields 62, 63, and 64 in the UCB record in the incore database are correctly populated.

If the initial restore fails, the IODRV uses the hardcoded filename k0100001 and pumps the IOP. If this restore also fails, the IODRV prints the PRM with a failure reason 000a and uses the backup copy of the pumpcode (k0100000) to pump the IOP.

If all three restore attempts fail, run diagnostics on the IOP. This PRM may be the result of a faulty IOP.

**PRM:F7xx-0D0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F7da 0D0x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

This PRM is printed out as a warning when the boot restore for the maintenance TTY controller (MTTYC) failed during or after pumping the pump code state. The IOP driver will try using the equipment configuration database (ECD) pump code filename to restore the MTTYC. This PRM is valid only for UN583 MTTYCs.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = The IOP device type. Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual.

y = Unit number.

z = Failure reason. Valid values are:

0009 = The pump code filename obtained from the MTTYC may not exist.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

None.

## 6. CORRECTIVE ACTION

During the restore of the MTTYC (UN583), the input/output driver (IODRV) queries the MTTYC for the version of the pump code file to construct the pump code filename. The MTTYC will respond with a 4-byte version number. If a non-zero version number is returned, the IODRV will construct the pump code filename by concatenating field 62 (pack code) of the UCB record for the MTTYC in the incore database and the version number. If the version number is zero, the IODRV will construct the pump code filename by concatenating fields 62 (pack code), 64 (version), and 63 (issue) of the UCB record for the MTTYC in the incore database.

Check that all UN583 pump code files exist in /iop/pccode directory and refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

This PRM may also be the result of a faulty MTTYC.

**PRM:F7xx-0F0x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F7da 0F0x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The IOP driver has tried repeatedly to restart a faulty duplexed essential unit whose mate is out-of-service (OOS), but all such attempts have failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = IOP device type. (Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual.)

y = Unit number.

z = Reason for failure. Valid values are:

00C5 = Mate unit was marked OOS and usable.



00C6 = Mate unit was marked OOS and unusable.

00C7 = Mate unit not available.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The system will be phased by the IOP driver following the issuance of this PRM.

## 6. CORRECTIVE ACTION

Diagnose indicated unit and its mate, if possible. Repair unit and restore to service. If system is going through rolling phases, a manual reboot may be required.

**PRM:F7xx-200x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F7da 200x xxyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor driver.

**3. FUNCTION**

This PRM code is printed out when a switchable subdevice cannot connect to any peripheral controller (PC).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = IOP device type (Refer to the APP:DEV-TYPE appendix in the Appendixes section of the PRM manual).

y = Unit number.

z = Reason for failure. Valid values are:

0004 = Maximum trail for port switch failed.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

Manually restore the PCs if they are out of service (OOS). If the subdevice does not connect to one of the controllers at this time, the physical device is off-line or has operationally failed. Check all physical devices configured to the portswitch to make sure they are on-line. If a subdevice is on-line but does not appear operational, take appropriate action to have the subdevice examined.

**PRM:F7xx-F000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F7da F000 yyyy zzzz hh hh hh

**2. PRM SOURCE**

Input/output processor (IOP) driver.

**3. FUNCTION**

The IOP driver has called phase.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Previous and current fault codes received by the driver. (Refer to the APP:PROC-FAULT appendix in the Appendixes section of the PRM manual for fault code definitions.)

z = IOP driver called phase reasons. Valid values are:

0001 = Encountered a fault while handling a fault.

0002 = Encountered excessive software faults in a given time period.

0003 = Excessive database access errors while handling a fault.

0004 = Excessive database access errors while handling a fault where the IOP was

affected but not implicated.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The most likely reason is a software problem.

## **6. CORRECTIVE ACTION**

The receive-only printer (ROP) output and input/output log files can be helpful in determining the problem. Input/output log files are /etc/log/IODRVLOG0 and /etc/log/IODRVLOG1. Forward the printout of the log files and the ROP to the software administrator.

**PRM:F8xx-01xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 01yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Initialization error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Partition.

z = MDCT-RID value of the root device.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

During boot time initialization, the segment index for the buffer segment could not be located in the kpcb.

## **6. CORRECTIVE ACTION**

Reboot the system using a different boot file.

**PRM:F8xx-02xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 02yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Initialization error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Partition.

z = MDCT-RID value of the root device.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

During boot time initialization, the super block of the root file system either could not be physically read or if read successfully did not contain the defined structure of a super block.



## **6. CORRECTIVE ACTION**

Check the disk file controller and moving head disk. Then reboot the system. If this does not work, reboot from backup.

**PRM:F8xx-04xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 04yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Initialization error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = The partition.

z = The MDCT-RID value of the root device.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

During boot time initialization, the root file system did not contain a valid root inode.

## **6. CORRECTIVE ACTION**

Reboot from backup, repair the root file system, and then reboot.

**PRM:F8xx-06xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 06yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Initialization error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Partition.

z = MDCT-RID value of the root device.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

During boot time initialization, the attachment to the equipment configuration database (ECD) failed.

## **6. CORRECTIVE ACTION**

Reboot the system using a different boot file.

**PRM:F8xx-0700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 0700 0000 0000 hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Task switch failure has occurred.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

When switching from a private stack to the normal kernel stack, the branch point taken was taken from the wrong (private) stack.

**6. CORRECTIVE ACTION**

Report the problem to operating system support.



**PRM:F8xx-08xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 08yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Inode management.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = The partition.

z = The MDCT-RID value of the file system associated with the inode.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The file system associated with a valid inode could not be found in the mount table.



## **6. CORRECTIVE ACTION**

Report the problem to operating system support.

**PRM:F8xx-0900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 0900 0000 zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Buffer management.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Major device number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

During the assignment of a buffer, the major device number to be associated with the buffer was found to exceed the maximum allowable for a block device.

**6. CORRECTIVE ACTION**

Report the error to operating system support.

**PRM:F8xx-0Cxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 0Cyy zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Directory management.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Partition.

z = MDCT-RID value of the inode at the mount point.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

After searching a directory tree and determining that the parent directory is a different file system (a mount point), the file manager could not locate the parent directory in the mount table.

## **6. CORRECTIVE ACTION**

Report the error to operating system support.

**PRM:F8xx-0D00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

```
PRM_p F8da 0D00 0000 0000 hh hh hh
```

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Inode management.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

While translating an incore inode block address table into the disk inode format, the file manager found a bad address in the incore inode.

**6. CORRECTIVE ACTION**

Report the error to operating system support.



**PRM:F8xx-1000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 1000 yyzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Too many nontask faults have occurred.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Last fault code.

z = Program address of the last fault.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The number of faults occurring in nontasking functions of the file manager exceeded the limit which may occur within 1 minute.



## 6. CORRECTIVE ACTION

None.

**PRM:F8xx-1100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 1100 yyzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Too many task faults have occurred.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Fault code.

z = Program address of the last fault.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The number of faults occurring in tasking functions of the file manager exceeded the limit which may occur within 1 minute.

## 6. CORRECTIVE ACTION

None.

**PRM:F8xx-1200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 1200 yyzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

Initialization error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Fault code.

z = Program address of the last fault.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The number of faults occurring in the kfault function of the file manager exceeded the limit which may occur within 1 minute.

## 6. CORRECTIVE ACTION

None.

**PRM:F8xx-1300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 1300 zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

File manager buffer error - an invalid logical device identifier (ID).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Address of the buffer with an invalid logical device ID.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the User Guidelines for definition of the digits.

**5. EXPLANATION**

The logical device ID in the buffer is invalid. The buffer has been scheduled for an I/O, and the invalid logical device ID (MDCT RID, and DCN) was detected. The I/O request for this buffer was denied.

**6. CORRECTIVE ACTION**

None.

**PRM:F8xx-13xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 13xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

The file system mount has failed during mount initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Reason the mount failed. Valid values are:

1 = The special device file for the device cannot be found.

2 = The mount point directory cannot be found.

3 = The mount point is not a directory.

y = Valid values are:

| If "x" = | "y" = |
|----------|-------|
| 1        | Zero. |



|        |                   |
|--------|-------------------|
| 2 or 3 | Partition number. |
|--------|-------------------|

z = Valid values are:

|          |                   |
|----------|-------------------|
| If "x" = | "z" =             |
| 1        | Zero.             |
| 2 or 3   | Partition number. |

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## 5. EXPLANATION

The mount has failed due to the listed reasons. This PRM does not cause the machine to phase.

## 6. CORRECTIVE ACTION

Take a corrective action as indicated by x, and try to mount again.

**PRM:F8xx-14xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 14xx xxxx yyzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

The file system mount audit (AUD:FMGR=7) failed due to a fault. The file manager may have failed to mount a file system.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Low-order 3 bytes of MDCT-RID value.

y = Fault code.

z = Disk partition number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The file system mount audit checks the structural integrity of a file system during the mount process. This PRM indicates that the audit process exited due to a fault. This fault may or may not be caused by the audit, and this PRM does not provide any indication about the structural integrity of the file system.

**NOTE:** This PRM does not cause the machine to phase.

## **6. CORRECTIVE ACTION**

If a failure condition has also been reported (that is, there is an accompanying PRM:F8-15xx), request the file system block and link audits by issuing the AUD:FSBLK and AUD:FSLINK input messages (refer to the Input Messages manual, 235-600-700). Try to mount the file system again. If the audit continues to fault, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F8xx-15xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 15ww xxxx yyzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

The file system mount audit (AUD:FMGR=7) failed due to structural problems in the file system. The file manager may have failed to mount a file system.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Error codes. Valid values are:

1 = Superblock error.

2 = I/O error.

3 = Block range error.

4 = Dup blocks.

5 = Inode error.

|   |                                                                                                                                                        |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6 | = Cannot get memory needed for audit.                                                                                                                  |
| x | = Number of errors of this type.                                                                                                                       |
| y | = Unused.                                                                                                                                              |
| z | = Disk partition numbers.                                                                                                                              |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits. |

## 5. EXPLANATION

The file system mount audit checks the structural integrity of a file system during the mount process. While a number of conditions will impact the structural integrity, only a superblock error will prevent the mount from completing.

**NOTE:** This PRM does not cause the machine to phase.

## 6. CORRECTIVE ACTION

Request the file system block and link audits by issuing the AUD:FSBLK and AUD:FSLINK input messages (refer to the Input Messages manual, 235-600-700).

**PRM:F8xx-16xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 16xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

The file system re-mount has failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Reason re-mount failed. Valid values are:

1 = The re-mount has been tried on a different mount point.

2 = The mount file system audit has failed.

3 = Failure during the super block read.

4 = Failure during the file system sync.

5 = The re-mount could not be done since the file system was busy.

|   |                                                                                                                                                        |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| y | = Partition number.                                                                                                                                    |
| z | = MDCT-RID of the partition.                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits. |

## 5. EXPLANATION

The re-mount has failed due to the listed reasons. This PRM does not cause the machine to phase.

## 6. CORRECTIVE ACTION

Take a corrective action as indicated by x, and try to mount again. In the case of error code 5, the processes accessing the file system can be identified by typing to unmount the file system. The number command will list processes which have opens to files in the file system.

**PRM:F8xx-17xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 17xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

The file system mount has failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Reason the mount failed. Valid values are:

1 = No empty slot in the mount table.

2 = The mount point is busy, and the y and z variable indicate the utility identifiers (UIDs) of the violating processes. Multiple occurrences of this PRM can appear for one mount.

3 = The mount point is busy.

4 = Failure in device driver creation.



- 5 = The mount file system audit has failed.
- 6 = Failure during the super block read from disk.
- 7 = Failure during the root inode read from disk.
- 8 = Attempt to set file system protection failed.

y = The partition number.

z = The MDCT-RID of the partition, except for the error 2 case.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The mount has failed due to the listed reasons. This PRM does not cause the machine to phase.

## 6. CORRECTIVE ACTION

Take the following action based on the failure code:

| If "x" =: | Action:                                                                                                                                                                                                                                 |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1         | Unmount a less important file system.                                                                                                                                                                                                   |
| 2,3       | Investigate the process identified by the UID and stop the process if appropriate.                                                                                                                                                      |
| 4         | Run AUD:FMGR 2 (described in the Input Messages manual, 235-600-700), and try to mount again. If the problem persists, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual. |
| 5         | Verify that the partition has been initialized as a file system, or restore from the backup file system.                                                                                                                                |
| 6-8       | Refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.                                                                                                                        |

**PRM:F8xx-18xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 18xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

The file system unmount has failed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Reason the unmount has failed. Valid values are:

1 = The special device file for the partition cannot be found; variables *y* and *z* are both 0.

2 = The partition has not been mounted.

3 = Failure during the file system sync.

4 = The file system is busy, and failure during the file system sync.

5 = The file system is busy.

- y = Partition number.
- z = MDCT-RID of the partition, except for the error 1 case.
- h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The unmount has failed. This PRM does not cause the machine to phase.

## 6. CORRECTIVE ACTION

| If "x" = | Action:                                                                                                                                                                                                                                                 |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Check the name of the partition being unmounted and/or check the information for the partition in the logdev record.                                                                                                                                    |
| 3 and 4  | Try again later.                                                                                                                                                                                                                                        |
| 5        | The processes accessing the file system will be identified by the file manager messages that are printed on the maintenance class devices [typically the receive-only printer (ROP)]. After the processes have released the files, try "unmount" again. |

In all other cases, and if the error persists, refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**PRM:F8xx-19xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 19yy zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

A file manager task has been torn down.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Reason the task has been torn down. Valid values are:

0 = Phase 1 occurred while this task is running.

1 = The task caused a software fault.

2 = The task has timed out.

3 = The file manager task audit (AUD:FMGR 1) detected faults in the task table.  
Refer to the Input Messages manual, 235-600-700.

4 = IO has been tried to the maximum number (5) of retries.

5 = The task had a lock for a file that was unconditionally unmounted.

z = Utility identifier (UID) of the process that originated the file manager message.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A file manager task has been torn down. This PRM does not cause the machine to phase.

## 6. CORRECTIVE ACTION

This is an informational PRM. No action is necessary.

**PRM:F8xx-1Axx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F8da 1Ayy zzzz zzzz hh hh hh

**2. PRM SOURCE**

File manager.

**3. FUNCTION**

A file manager task has been torn down.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = The file manager message type.

z = The sleep/fault address of the task.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A file manager task has been torn down. This PRM does not cause the machine to phase.

## **6. CORRECTIVE ACTION**

This is an informational PRM. No action is necessary.

**18. F9xx-0000 — FExx-7EFF**



**PRM:F9xx-0100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 0100 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Excessive number of illegal interrupts.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An excessive number of illegal interrupts have occurred within a 10 msec interval.

Routine - kernel - 3bstub.c.

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

Look for extraneous interrupts on unequipped interrupt source points.

**PRM:F9xx-0200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 0200 00zz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Bad segment descriptor entry (SDE) pointer.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Hexadecimal return address from which badost( ) was called.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An invalid operating system trap (OST) has occurred. In order to determine what process to fault, the kernel must look at the primary segment base register of the caller to determine the process number. The primary segment base register is either in error or one of the special processes caused the bad OST trap.

Routine: kernel - badost( ).

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-0300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 0300 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel Service Routines.

**3. FUNCTION**

Segment descriptor entry (SDE) pointer does not belong to a process control block (PCB).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An invalid operating system trap (OST) has occurred. In order to determine what process to fault, the kernel must look at the primary segment base register of the caller to determine the process number.

Routine: kernel - badost().

The SDE provided by the primary segment base address register does not belong to a PCB.

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-0400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 0400 0000 00zz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Unexpected interrupt.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Interrupt source. Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for definition of the digits.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A spurious interrupt fired more than five times in the last second.

Routine: kernel - unexpint( ).

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.



**PRM:F9xx-05xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 05xx 00yy 00zz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Unattached interrupt.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Interrupt source. Refer to the APP:EIH-FUNC appendix in the Appendixes section of the PRM manual for definition of the digits.

y = Channel number.

z = Device number.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An unattached interrupt fired more than five times in the last second.

Routine: kernel - unatchint( ).

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-060x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 060y 00zz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Invalid kernel process dispatch.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Execution level of the active dispatching queue.

z = Hexadecimal address of the dispatching control table element which is in error.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A nonkernel process level process was found on a dispatching queue reserved for kernel processes.

Routine: kernel - disp2\_F( ).

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-070x****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 070y 00zz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Bad segment descriptor entry (SDE) pointer.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Execution level at the time of the fault.

z = Hexadecimal text address at which the fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

When trying to fault a process, the kernel must determine the process number from the primary segment base register in an interrupt stack element. The segment base register value used was either damaged or the kernel or a

special process caused the fault.

Routine: kernel - rtift( ).

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-0800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 0800 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

An unknown or illegal process is trying to return from a software fault.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of digits.

**5. EXPLANATION**

A process encountered a software fault and the kernel can not determine the process type.

A level one phase has been requested.

**6. CORRECTIVE ACTION**

Report the error to operating system support.



**PRM:F9xx-0900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 0900 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Null dispatcher control table entry (DCTE) pointer.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

While trying to fault a process, the operating system detected a null DCTE pointer.

Routine - kernel - nkint.c.

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-1000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 1000 0000 0000 hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

An invalid branch occurred.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An invalid branch was made to the text located at offset zero. This will occur if either field update improperly modified a transfer vector or some kernel process which shares the stack with the kernel has improperly modified a portion of the stack currently in use as a C call save state.

Routine - kernel - zeppelin( ).

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-11xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 11xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Kernel incurred software fault.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Execution level of kernel at time of fault.

y = Fault code.

z = Address where fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Kernel incurred software fault and was unable to recover.

A level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-12xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 12xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Kernel faulted while in a special system process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Execution level of kernel at time of fault.

y = Fault code.

z = Address where fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The kernel faulted while handling a supervisor operating system trap (OST) from a system special process. A recovery will be tried.

## **6. CORRECTIVE ACTION**

None.



**PRM:F9xx-13xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 13xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Kernel faulted while handling a supervisor operating system trap (OST).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Execution level of kernel at time of fault.

y = Fault code.

z = Address where fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The kernel faulted while handling a supervisor OST, but recovery was impossible.

A level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-14xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 14xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Kernel faulted while handling a channel operating system trap (OST).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Execution level of kernel at time of fault.

y = Fault code.

z = Address where fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The kernel faulted while handling a channel OST, but recovery was impossible.

A level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-15xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 15xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Kernel faulted while handling a kernel process operating system trap (OST).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Execution level of kernel at time of fault.

y = Fault code.

z = Address where fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The kernel faulted while handling a kernel process OST, but recovery was impossible.

A level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-16xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 16xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Kernel faulted while in the kernel audit.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Execution level of kernel at time of fault.

y = Fault code.

z = Address where fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The kernel faulted while in the kernel audit, but recovery was impossible.

A level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.



**PRM:F9xx-17xx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 17xx yyzz zzzz hh hh hh

**2. PRM SOURCE**

Kernel service routines.

**3. FUNCTION**

Kernel faulted while in a special process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Execution level of kernel at time of fault.

y = Fault code.

z = Address where fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The kernel faulted while in a special process, but recovery was impossible.

A level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-3400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 3400 0000 0000 hh hh hh

**2. PRM SOURCE**

Scheduler.

**3. FUNCTION**

There are no available scheduler slist entries.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

During process creation new user processes must be linked to a priority level on the Rlist or NRlist. The process creation failed because there are no slist entries available.

**6. CORRECTIVE ACTION**

Kill less important user processes to free some slist entries. If the process was being created from the operating

system shell, hit the break key to stop the shell from retrying the command.

**PRM:F9xx-3700****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 3700 0000 0000 hh hh hh

**2. PRM SOURCE**

Scheduler.

**3. FUNCTION**

I/O error during process load.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An I/O error was received while loading a segments of a process. Further, the dispatcher control table (DCT) indicated that the process was of class essential| or was a NOTERM| process.

**6. CORRECTIVE ACTION**

None.



**PRM:F9xx-3802****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 3802 zz00 0000 hh hh hh

**2. PRM SOURCE**

Scheduler.

**3. FUNCTION**

The scheduler encountered an unexplained fault.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Contains the fault code.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An unexplained fault was encountered by the scheduler.

A level 1 phase has been requested.

## 6. CORRECTIVE ACTION

Report the error to *UNIX*® RTR Operating System support.



**PRM:F9xx-3902****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 3902 zz00 0000 hh hh hh

**2. PRM SOURCE**

Scheduler.

**3. FUNCTION**

The scheduler encountered a software fault within the last 10 sched ticks.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Contains the fault code.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The scheduler encountered the first software fault within the last 10 sched ticks. The scheduler's key data structures were rebuilt.

**6. CORRECTIVE ACTION**

Report the error to the operating system support.

**PRM:F9xx-3A02****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 3A02 zz00 0000 hh hh hh

**2. PRM SOURCE**

Scheduler.

**3. FUNCTION**

The scheduler encountered the second software fault within the last 10 sched ticks.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Contains the fault code.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The scheduler encountered the second software fault within the last 10 sched ticks.

A level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

Report the error to the operating system support.

**PRM:F9xx-4002****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 4002 zz00 0000 hh hh hh

**2. PRM SOURCE**

Kernel display application driver (Kdapdrv).

**3. FUNCTION**

Kdapdrv encountered a software fault.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Contains the fault code.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Some type of software or unexplained fault was encountered by the driver. A level one phase has been requested.

**6. CORRECTIVE ACTION**

Report the error to the operating system support.

**PRM:F9xx-5002****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 5002 zz00 0000 hh hh hh

**2. PRM SOURCE**

Utility manager (UMGR).

**3. FUNCTION**

UMGR encountered a software fault.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Contains the fault code.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Some type of software or unexplained fault was encountered by the utility manager.

A level one phase has been requested.

## **6. CORRECTIVE ACTION**

Report the error to the operating system support.



**PRM:F9xx-6E00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 6E00 0000 0000 hh hh hh

**2. PRM SOURCE**

Memory manager (MMGR).

**3. FUNCTION**

Bad return code received from function call.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

MMGR routine that tries to make space on the disk returned a bad return code.

Routine - memory manager - mmprc.c.

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-6F00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 6F00 0000 0000 hh hh hh

**2. PRM SOURCE**

Memory manager (MMGR).

**3. FUNCTION**

Bad return code received from function call.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

MMGR routine that loads segments into memory returned an invalid return code.

Routine - memory manager - mmprc.c.

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-7000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 7000 0000 0000 hh hh hh

**2. PRM SOURCE**

Memory manager (MMGR).

**3. FUNCTION**

MMGR synchronization fault.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The MMGR has just given up the swap space for a segment that it is trying to grow and failed to acquire swap space for the new (larger) size. It then tried to reclaim the old space and failed. This is an impossible situation.

Level 1 phase has been requested.

**6. CORRECTIVE ACTION**

None.

**PRM:F9xx-7100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 7100 0000 0000 hh hh hh

**2. PRM SOURCE**

Memory manager (MMGR).

**3. FUNCTION**

MMGR swapping logic error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

MMGR is about to retry the swap of a segment. The swap attempt failed earlier because of a message buffer shortage. Unfortunately, the MMGR has lost track of whether the segment is to be swapped in or out. This is an impossible situation.

Level 1 phase has been requested.

## **6. CORRECTIVE ACTION**

None.



**PRM:F9xx-7200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 7200 0000 0000 hh hh hh

**2. PRM SOURCE**

Memory manager (MMGR).

**3. FUNCTION**

MMGR internal table built in wrong sequence.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The MMGR has an internal table containing the types of all messages handled by MMGR. This table must be in ascending numerical order but is not. This is the result of a bad code modification.

Level 1 phase has been requested.

**6. CORRECTIVE ACTION**

None.

**PRM:F9xx-7300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 7300 0000 0000 hh hh hh

**2. PRM SOURCE**

Memory manager.

**3. FUNCTION**

Swap memory below minswap after boot.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Kernel processes in the boot image can add segments during the boot interval. During this interval, the minimum swap space threshold is not enforced. This PRM indicates that a boot process(es) has created enough segments to bring the system below the minswap threshold. Other essential processes may not be able to run.

It must be determined whether the segments were created in error. If not, the main memory may be too small to support this configuration.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-7400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 7400 0000 0000 hh hh hh

**2. PRM SOURCE**

Memory manager.

**3. FUNCTION**

Memory manager ran out of hold descriptor blocks during rebuild.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The memory manager controls available space in the swap partition by means of control structures called hole descriptor blocks (HDB). During an emergency rebuilding of the swap disk control information, the memory manager ran out of HDBs.

**6. CORRECTIVE ACTION**

Level 1 phase has been requested.

**PRM:F9xx-7502****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 7502 zz00 0000 hh hh hh

**2. PRM SOURCE**

Memory manager.

**3. FUNCTION**

Memory manager was entered with a fault.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Fault code.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The memory manager was entered with the fault code in z. The fault codes are defined in head/fault.h.

**6. CORRECTIVE ACTION**

None.



**PRM:F9xx-7Fxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 7Fzz 0000 0000 hh hh hh

**2. PRM SOURCE**

Memory manager.

**3. FUNCTION**

Inconsistent data in swap device extent control information.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Location code identifying where in the code the problem was encountered.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The memory manager has discovered inconsistent data in the control information used to keep track of the free extents on the swap device.

A level 1 phase has been requested. As part of the recovery after the phase, an attempt will be made to clean up the

invalid data.

## **6. CORRECTIVE ACTION**

None.

**PRM:F9xx-8002****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p F9da 8002 zz00 0000 hh hh hh

**2. PRM SOURCE**

Capability manager (CMGR).

**3. FUNCTION**

CMGR encountered a software fault.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Contains the fault code.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Some type of software or unexplained fault was encountered by the capability manager. A level one phase has been requested.

**6. CORRECTIVE ACTION**

Report the error to operating system support.

**PRM:FAxx-0100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

```
PRM_p FAda 0100 0000 0000 hh hh hh
```

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Second initialization request.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The process manager can only be initialized once. The system integrity monitor (SIM) is informed, and the message is disallowed.

**6. CORRECTIVE ACTION**

None.



**PRM:FAxx-0200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FAda 0200 0000 0000 hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Failed to open kernel stack segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Kernel stack segment identification (ID) is bad, the segment index is bad, or the segment does not exist in the system. When openseg operating system trap (OST) is called, memory manager (MMGR) reports failure condition. The process manager reports to system integrity monitor (SIM) for reinitialization.

**6. CORRECTIVE ACTION**

None.



**PRM:FAxx-0300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FAda 0300 0000 0000 hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Failed to open kernel message buffer segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Kernel message buffer segment identification (ID) is bad, the segment index is bad, or the segment does not exist in the system. When openseg operating system trap (OST) is called, memory manager (MMGR) reports failure condition. The process manager reports to system integrity monitor (SIM) for reinitialization.

**6. CORRECTIVE ACTION**

None.

**PRM:FAxx-0800****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FAda 0800 0000 0000 hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Fail to open root file system.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

File manager could not open root file system. The process manager reports to system integrity monitor (SIM) for reinitialization.

**6. CORRECTIVE ACTION**

None.



**PRM:FAxx-0900****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FAda 0900 0000 0000 hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Failed to add nub.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Process manager keeps the nub segments in its address space. It failed to add the nub segments into the process manager segment list. The process manager reports to system integrity monitor (SIM) for reinitialization.

**6. CORRECTIVE ACTION**

None.



**PRM:FAxx-0C00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

```
PRM_p FAda 0C00 0000 0000 hh hh hh
```

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Failed to open protected application segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Protected application segment identification (ID) is bad, the segment index is bad, or the segment does not exist in the system. The process manager reports to system integrity monitor (SIM) for reinitialization.

**6. CORRECTIVE ACTION**

None.





**PRM:FAxx-0D00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FAda 0D00 0000 0000 hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Failed to open equipment configuration database (ECD) text segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ECD text segment identification (ID) is bad, the segment index is bad, or the segment does not exist in the system. The process manager reports to system integrity monitor (SIM) for reinitialization.

**6. CORRECTIVE ACTION**

None.



**PRM:FAxx-0E00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FAda 0E00 0000 0000 hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Failed to open equipment configuration database (ECD) segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ECD data segment identification (ID) is bad, the segment index is bad, or the segment does not exist in the system. The process manager reports to system integrity monitor (SIM) for reinitialization.

**6. CORRECTIVE ACTION**

None.



**PRM:FAxx-0F00****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

```
PRM_p FAda 0F00 0000 0000 hh hh hh
```

**2. PRM SOURCE**

Process Manager.

**3. FUNCTION**

Failed to open equipment configuration database (ECD) patch segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

ECD patch segment identification (ID) is bad, the segment index is bad, or the segment does not exist in the system. The process manager reports to system integrity monitor (SIM) for reinitialization.

**6. CORRECTIVE ACTION**

None.



**PRM:FAxx-1100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FAda 1100 0000 0000 hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Failed to open plant measurement library (PML) text segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

PML text segment identification (ID) is bad, the segment index is bad, or the segment does not exist in the system. The process manager reports to the system integrity monitor (SIM) for reinitialization.

**6. CORRECTIVE ACTION**

None.





**PRM:FAxx-1200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FAda 1200 0000 0000 hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Failed to open plant measurement library (PML) data segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

PML data segment identification (ID) is bad, the segment index is bad, or the segment does not exist in the system. The process manager reports to the system integrity monitor (SIM) for reinitialization.

**6. CORRECTIVE ACTION**

None.



**PRM:FAxx-1300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FAda 1300 0000 0000 hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Failed to open plant measurement library (PML) patch segment.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

PML patch segment identification (ID) is bad, the segment index is bad, or the segment does not exist in the system. The process manager reports to the system integrity monitor (SIM) for initialization.

**6. CORRECTIVE ACTION**

None.



**PRM:FAxx-1500****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FAda 1500 yyzz zzzz hh hh hh

**2. PRM SOURCE**

Process manager.

**3. FUNCTION**

Process manager fault count threshold exceeded.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Fault code.

z = The address at which the fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The process manager faulted repeatedly, and attempts to recover from the faults failed. When the number of faults exceeds a threshold value, the system integrity monitor (SIM) is informed for reinitialization.

## 6. CORRECTIVE ACTION

None.

**PRM:FBxx-0000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 0000 rstu wxyz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System initialization failure. System integrity monitor (SIM) did not receive a successful initialization status report from one or more of the essential boot processes.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

r = File manager. Indicates if the process did not report. Valid values are:

1 = The process was reported.

0 = The process was not reported.

s = Disk driver. Indicates if the process did not report. Valid values are:

1 = The process was reported.

|   |   |                                                                                                                                                       |
|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | 0 | = The process was not reported.                                                                                                                       |
| t |   | = Process manager. Indicates if the process did not report. Valid values are:                                                                         |
|   | 1 | = The process was reported.                                                                                                                           |
|   | 0 | = The process was not reported.                                                                                                                       |
| u |   | = Error interrupt handler. Indicates if the process did not report. Valid values are:                                                                 |
|   | 1 | = The process was reported.                                                                                                                           |
|   | 0 | = The process was not reported.                                                                                                                       |
| w |   | = Capability manager. Indicates if the process did not report. Valid values are:                                                                      |
|   | 1 | = The process was reported.                                                                                                                           |
|   | 0 | = The process was not reported.                                                                                                                       |
| x |   | = Scheduler. Indicates if the process did not report. Valid values are:                                                                               |
|   | 1 | = The process was reported.                                                                                                                           |
|   | 0 | = The process was not reported.                                                                                                                       |
| y |   | = Utility manager. Indicates if the process did not report. Valid values are:                                                                         |
|   | 1 | = The process was reported.                                                                                                                           |
|   | 0 | = The process was not reported.                                                                                                                       |
| z |   | = Memory manager. Indicates if the process did not report. Valid values are:                                                                          |
|   | 1 | = The process was reported.                                                                                                                           |
|   | 0 | = The process was not reported.                                                                                                                       |
| h |   | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

Thirty seconds after the start of system bootstrap (phase 2, 3, or 4), SIM could not verify a successful operating system level initialization because it failed to receive a successful status report from at least one essential boot process. SIM will request another system initialization unless software checks are inhibited.

## 6. CORRECTIVE ACTION



Selecting INH-SFT-CHK| on the emergency action interface (EAI) page of the maintenance TTY (MTTY) will prevent system integrity monitor (SIM) from requesting another phase every 30 seconds. However, the system may not recover. In that event, attempt to bootstrap on backup root. Follow normal procedures for restoring the primary root file system.

**PRM:FBxx-0Bxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 0Byy zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) requested a phase 1 because it was looping in its fault entry.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Fault code received by SIM the last time it was faulted.

z = Virtual address within SIM at which the last fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

If the system is rolling in bootstraps, reboot on backup root and follow normal procedures for restoring the primary root system. Otherwise, no action is required.

**PRM:FBxx-0Cxx****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 0Cyy zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) requested a phase 1 after having been faulted five times.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Fault code of the last fault that occurred.

z = Virtual address within SIM at which the last fault occurred.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

If the system is rolling in bootstraps, reboot on backup root and follow normal procedures for restoring the primary root file system. Otherwise, no action is required.

**PRM:FBxx-2000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 2000 0000 00zz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) is requesting a phase 1 in an effort to recover from message buffer overflow.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Accompanying overload condition. Valid values are:

00 = None.

9A = Kernel-level lockout.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.

## **6. CORRECTIVE ACTION**

None.

**PRM:FBxx-2100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 2100 0000 00zz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) is requesting a phase 1 in an effort to recover from critical message buffer overload.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = Accompanying overload condition. Valid values are:

9A = Kernel-level lockout.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

None.



## **6. CORRECTIVE ACTION**

None.

**PRM:FBxx-4000****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 4000 zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

The system integrity monitor (SIM) requested a phase 0 as a recovery action for an audit failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = For operating system audits, this word of data is the equipment configuration database (ECD) record identifier (RID) of the audit instance for which the recovery action was initiated. Applications have the option of specifying within an audit record that a different data word be used in this PRM.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An audit, identified by the data field of the PRM, reported one or more errors in an error category for which one of the recovery actions specified in the audit ECD record is a phase 0.

## **6. CORRECTIVE ACTION**

Use the input message OP:AUD with the ALL parameter to identify the audit instance whose RID matches the data field of the PRM. Refer to the Input Messages manual, 235-600-700. If no match is found, the data field should be documented in an application publication.

Once the audit has been identified, refer to the Audits manual, 235-600-400, for instructions on responding to the audit failure.

**PRM:FBxx-4100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 4100 zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

The system integrity monitor (SIM) requested a phase 1 as a recovery action for an audit failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = For operating system audits, this word of data is the equipment configuration database (ECD) record identifier (RID) of the audit instance for which the recovery action was initiated. Applications have the option of specifying within an audit record that a different data word be used in this PRM.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An audit, identified by the data field of the PRM, reported one or more errors in an error category for which one of the recovery actions specified in the audit ECD record is a phase 1.

## 6. CORRECTIVE ACTION

Use the input message OP:AUD with the ALL parameter to identify the audit instance whose RID matches the data field of the PRM. Refer to the Input Messages manual, 235-600-700. If no match is found, the data field should be documented in an application publication.

Once the audit has been identified, refer to the Audits manual, 235-600-400, for instructions on responding to the audit failure.

**PRM:FBxx-4200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 4200 zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

The system integrity monitor (SIM) requested a phase 2 as a recovery action for an audit failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = For operating system audits, this word of data is the equipment configuration database (ECD) record identifier (RID) of the audit instance for which the recovery action was initiated. Applications have the option of specifying within an audit record that a different data word be used in this PRM.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An audit, identified by the data field of the PRM, reported one or more errors in an error category for which one of the recovery actions specified in the audit ECD record is a phase 2.

## **6. CORRECTIVE ACTION**

Use the input message OP:AUD with the ALL parameter to identify the audit instance whose RID matches the data field of the PRM. Refer to the Input Messages manual, 235-600-700. If no match is found, the data field should be documented in an application publication.

Once the audit has been identified, refer to the Audits manual, 235-600-400, for instructions on responding to the audit failure.

**PRM:FBxx-4300****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 4300 zzzz zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

The system integrity monitor (SIM) requested a phase 3 as a recovery action for an audit failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = For operating system audits, this word of data is the equipment configuration database (ECD) record identifier (RID) of the audit instance for which the recovery action was initiated. Applications have the option of specifying within an audit record that a different data word be used in this PRM.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An audit, identified by the data field of the PRM, reported one or more errors in an error category for which one of the recovery actions specified in the audit ECD record is a phase 3.



## **6. CORRECTIVE ACTION**

Use the input message OP:AUD with the ALL parameter to identify the audit instance whose RID matches the data field of the PRM. Refer to the Input Messages manual, 235-600-700. If no match is found, the data field should be documented in an application publication.

Once the audit has been identified, refer to the Audits manual, 235-600-400, for instructions on responding to the audit failure.

**PRM:FBxx-5100****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 5100 0000 zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) failed to receive a sanity message or event from the application integrity monitor (AIM) within the number of seconds specified in the SIM control record in the equipment configuration database (ECD).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

z = The number of seconds after the start of the bootstrap when SIM requested the phase.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

If the SIM control record specifies a time limit for AIM to report to SIM after a bootstrap, then AIM must send SIM either an application sanity timer message or an application sanity event in order to prove that it is sane. If SIM does

not receive a sanity message or event within the time limit, then it will request another phase (unless software checks are inhibited).

## **6. CORRECTIVE ACTION**

Reboot with software checks inhibited and determine what is wrong with the AIM.

**PRM:FBxx-5200****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 5200 0000 0000 hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

System integrity monitor (SIM) failed to receive a sanity event from the application integrity monitor (AIM) to reset the application sanity timer.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM starts the application sanity timer by sending a message to SIM that specifies the timing interval and recovery action to be taken if the timer is not reset. If AIM does not reset the timer by sending SIM a sanity event at least once during every timing interval, then SIM will request a system initialization phase as specified in the request message.

## **6. CORRECTIVE ACTION**

If the system does not recover automatically, then reboot with software checks inhibited and determine what is wrong with the AIM.

**PRM:FBxx-7400****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FBda 7400 xxyy zzzz hh hh hh

**2. PRM SOURCE**

System integrity monitor.

**3. FUNCTION**

A user initialization procedure timed out.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The error is fatal and requires a system phase.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = User initialization level.

| User/Supervisor/Kernel Process Type Restarted | Initialization Level (xx) |    |    |
|-----------------------------------------------|---------------------------|----|----|
|                                               | 01                        | 02 | 03 |
| User Processes                                | y                         | y  | y  |
| Nonessential killable UNIX System/Supv.       | n                         | y  | y  |
| Essential killable UNIX System/Supv.          | n                         | n  | y  |
| Nonkillable UNIX System/Supv.                 | n                         | n  | n  |
| Kernel                                        | n                         | n  | n  |

| I/O Driver Handler Reinitialized | Initialization Level (xx) |    |    |
|----------------------------------|---------------------------|----|----|
|                                  | 01                        | 02 | 03 |
|                                  |                           |    |    |

|                                       |   |   |   |
|---------------------------------------|---|---|---|
| Session layer handler (BXSLH)         | n | n | y |
| Handlers (CCITT)                      | n | n | y |
| User interface handler (CIH)          | n | y | y |
| Communication protocol handler (CPH)  | n | n | y |
| Direct user interface handler (DUIH)  | n | n | y |
| Magnetic tape handler (MTH)           | n | n | y |
| Network protocol handler (MPH)        | n | n | y |
| Scan and signal dist. handler (SCSDH) | n | n | y |
| Sync. datalink handler (SDLH)         | n | n | y |

y = Current user initialization phase. There are four phases in a user initialization. During a normal user initialization sequence, all four phases are seen. Valid values are:

- 01 = Sure kill phase. Processes are terminated based on the initialization level (xx).
- 02 = I/O driver phase. The I/O driver reinitializes its handlers. SIMM begins running audits.
- 03 = ULARP phase. ULARP process is restarted.
- 04 = Process creation phase. ULARP restarts or adopts its processes.

z = Current status of the user initialization. Valid values are:

- 0000 = Current phase is proceeding normally.
- 0001 = The indicated phase timed out. This may or may not be a serious problem, so wait to see if the CFT-INIT succeeds or fails.
- 0002 = SIM cannot find out the process ID of the I/O Driver. CFT-INIT is aborted.
- 0003 = CFT-INIT failed. Look for other PRMs to locate the exact cause of the problem. Trying the next higher level of CFT-INIT may solve the problem.
- 0004 = CFT-INIT completed successfully.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated while a CFT-INIT is in progress. It is used to convey status information about the CFT-INIT. Since a port switch of the ROP and MCRT may occur during a CFT-INIT, some erroneous PRMs may be output. Therefore, decode all failure PRMs completely before escalating the recovery level and ignore any single success PRMs that seem out of sequence.

## 6. CORRECTIVE ACTION

This section describes the corrective actions for the various permutations of this PRM.

| If "x" = | If "y" = | If "z" = | Action:                                                                                                                                                          |
|----------|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |          | 0000     | CFT-INIT status PRM. No corrective action is required.                                                                                                           |
|          | 01       | 0001     | The scheduler timed out during the Sure Kill Phase of the CFT-INIT. The scheduler will automatically clean up after 9 minutes. No corrective action is required. |
|          | 02       | 0001     | The I/O driver timed out during the I/O Driver Phase of the CFT-INIT. No corrective action is required.                                                          |

|    |    |      |                                                                                                                                                                                                                                                                                                                   |
|----|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | 03 | 0001 | SIM timed out waiting for the process manager to create ULARP during the ULARP Phase of the CFT-INIT. The CFT-INIT is expected to fail. As a corrective action, try a level 2 CFT-INIT.                                                                                                                           |
| 02 | 03 | 0001 | SIM timed out waiting for the process manager to create ULARP during the ULARP Phase of the CFT-INIT. The CFT-INIT is expected to fail. As a corrective action, try a level 3 CFT-INIT.                                                                                                                           |
| 03 | 03 | 0001 | SIM timed out waiting for the process manager to create ULARP during the ULARP Phase of the CFT-INIT. The CFT-INIT is expected to fail. If after 15 minutes the terminals are unresponsive, reboot the machine (52).                                                                                              |
|    | 04 | 0001 | SIM timed out waiting for the ULARP to create its children during the Process Creation Phase of the CFT-INIT. The CFT-INIT is expected to fail. If after 15 minutes the terminals are unresponsive, reboot the machine (52).                                                                                      |
|    | 01 | 0002 | SIM cannot determine the process ID of the I/O driver. This is a serious problem. If after 15 minutes the terminals are unresponsive, reboot the machine (52).                                                                                                                                                    |
|    | 02 | 0002 | SIM cannot determine the process ID of the I/O driver. This is a serious problem. SIM will automatically initiate a phase 1 (51) in an attempt to force the I/O driver into restore. As a corrective action, try a level 3 CFT-INIT. If after 15 minutes the terminals are unresponsive, reboot the machine (52). |
|    |    | 0003 | The CFT-INIT failed. Take corrective action based on the other CFT-INIT PRM.<br><br>This PRM is also seen if a phase 1 (51) occurs while a CFT-INIT is in progress. If this is the case, retry the same level CFT-INIT.                                                                                           |
|    |    | 0004 | ULARP was able to successfully create its child processes. CFT-INIT completed successfully. Normally, no corrective action is required; however, if terminals are unresponsive, try a level 3 CFT-INIT. If after 15 minutes the terminals are still unresponsive, reboot the machine (52).                        |



**PRM:FExx-720x****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 720w xxxx yyzz hh hh hh

**2. PRM SOURCE**

Common channel signaling (CCS) ring monitor (RINGMON) kernel process.

**3. FUNCTION**

To report detection and correction of a discrepancy in the CCS signaling status indicators during an initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

w = Signaling audit item. Valid values are:

1 = DDCNIOOS. Data delivery (DD) bit for CCS direct signaling.

2 = CCSCNI. Global status indicator for CCS direct signaling.

3 = DDCNITSOOS. DD bit for CCS trunk signaling.

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4  | = CCSCNITS. Global status indicator for CCS trunk signaling.                                                                                          |
| 5  | = DDCCS7OOS. DD bit for CCS transaction capabilities application part (TCAP) signaling.                                                               |
| 6  | = CCSCCS7. Global status indicator for CCS TCAP signaling.                                                                                            |
| 7  | = Equipage status of CCS direct signaling.                                                                                                            |
| 8  | = Equipage status of CCS trunk signaling.                                                                                                             |
| 9  | = Equipage status of CCS TCAP signaling.                                                                                                              |
| x  | = Unused.                                                                                                                                             |
| y  | = Unused.                                                                                                                                             |
| z  | = Status of the item after the audit. Valid values are:                                                                                               |
| 00 | = In-service.                                                                                                                                         |
| 01 | = Out-of-service.                                                                                                                                     |
| 02 | = Equipped.                                                                                                                                           |
| 03 | = Unequipped.                                                                                                                                         |
| h  | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM is printed by the RINGMON kernel process during a CNI initialization. It indicates detection and correction of discrepancies in the CCS signaling status indicators.

## 6. CORRECTIVE ACTION

None.

**PRM:FExx-730x****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 730q rstu wxyz hh hh hh

**2. PRM SOURCE**

Common channel signaling (CCS) ring monitor (RINGMON) kernel process.

**3. FUNCTION**

To report that RINGMON has made some progress during a common network interface (CNI) initialization or direct link node (DLN) recovery action.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

q = RINGMON initialization progress point. Valid values are:

1 = CCS start traffic sequence was begun.

2 = Start of DLN initialization interval has occurred.

3 = DLN restoration has completed.

|   |   |                                                                            |
|---|---|----------------------------------------------------------------------------|
|   | 4 | = DLN restart has completed.                                               |
|   | 5 | = CCS start traffic sequence has completed.                                |
| r |   | = CNI level of initialization in progress. Valid values are:               |
|   | 1 | = CNI level 1 initialization.                                              |
|   | 2 | = CNI level 2 initialization.                                              |
|   | 3 | = CNI level 3 initialization.                                              |
|   | 4 | = CNI level 4 initialization.                                              |
|   | 7 | = No CNI level initialization.                                             |
| s |   | = Global parameter value for DLN equipage. Valid values are:               |
|   | 0 | = Unequipped.                                                              |
|   | 1 | = Equipped.                                                                |
| t |   | = Status of DLN queue 0. Valid values are:                                 |
|   | 0 | = Queue was grown to its maximum size.                                     |
|   | 1 | = Queue was grown to its minimum usable size.                              |
|   | 2 | = Queue growth is still in progress.                                       |
| u |   | = Status of DLN queue 1. Refer to variable t.                              |
| w |   | = Interprocessor message switch (IMS) state of DLN 00-2. Valid values are: |
|   | 0 | = Out-of-service (OOS).                                                    |
|   | 1 | = Active (ACT).                                                            |
| x |   | = CNI state of DLN 00-2. Valid values are:                                 |
|   | 0 | = OOS.                                                                     |
|   | 1 | = ACT.                                                                     |
|   | 2 | = Off-line (OFL).                                                          |
|   | 3 | = Standby (STBY).                                                          |
| y |   | = IMS state of DLN 32-2. Refer to variable w.                              |
| z |   | = CNI state of DLN 32-2. Refer to variable x.                              |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is printed by the RINGMON kernel process during a CNI initialization or DLN recovery action. It indicates that significant progress has been made by RINGMON in achieving a normal operational state.

## 6. CORRECTIVE ACTION

None.

**PRM:FExx-740x****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 740r stuw xyz hh hh hh

**2. PRM SOURCE**

Common channel signaling (CCS) ring monitor (RINGMON) kernel process.

**3. FUNCTION**

To report any automatic recovery action initiated by RINGMON.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

r = Type of recovery action. Valid values are:

0 = Direct link node (DLN) was removed.

1 = Common network interface (CNI) level 1 initialization was requested.

2 = CNI level 2 initialization was requested.

3 = CNI level 3 initialization was requested.

4 = CNI level 4 initialization was requested.

s = Interprocessor message switch (IMS) state of DLN 00-2. Valid values are:

0 = Out-of-service (OOS).

1 = Active (ACT).

t = CNI state of DLN 00-2. Valid values are:

0 = OOS.

1 = ACT.

2 = Off-line (OFL).

3 = Standby (STBY).

u = IMS state of DLN 32-2. Refer to variable s.

w = CNI state of DLN 32-2. Refer to variable t.

x = Not used.

y = Error type. Valid values are:

00 = An action conflict occurred between DLNs.

01 = A direct memory access (DMA) job request in the DLN failed.

02 = A DLN queue pointer was out of range, and was detected by the DLN.

03 = The DLN's DMA state failed to progress within 750 ms.

04 = A DLN detected a message of inconsistent size in the queue.

05 = A message switch control unit (MSCU) queue pointer was out of range.

06 = The DLN output queue overflowed.

07 = The DLN input queue overflowed.

08 = A DLN queue pointer was out of range, and was detected by the MSCU.

09 = An MSCU detected a message of inconsistent size in the queue.

0A = The DLN heartbeat test failed due to inconsistencies in the logical link map (LLM).

0B = The DLN heartbeat test timed out after several attempts.

0C = The DLN heartbeat test failed because the tested DLN was not active.

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0D | = The DLN heartbeat test failed because the MSCU was unable to handle the message.                                                                    |
| 0E | = The DLN heartbeat test failed because a SM failed to respond back to the DLN.                                                                       |
| 0F | = The DLN did not acknowledge the RINGMON message to begin scanning the queues.                                                                       |
| 10 | = RINGMON received a CNI message to acknowledge DLNs, but no DLN was active.                                                                          |
| 11 | = The RINGMON audit of the DLN variables revealed an error.                                                                                           |
| 12 | = RINGMON detected that it was being initialized without a concurrent CNI initialization.                                                             |
| 13 | = RINGMON exceeded its threshold of returned CNI messages.                                                                                            |
| 14 | = RINGMON timed out waiting for a start traffic message.                                                                                              |
| 15 | = RINGMON timed out waiting for the start traffic message sequence to complete.                                                                       |
| 16 | = RINGMON timed out waiting for a CNI DLN event message.                                                                                              |
| 17 | = DLN system integrity reports escalation of error recovery.                                                                                          |
| 18 | = The CNI ring can not communicate with the administrative module (AM).                                                                               |
| z  | = Indicates which DLN was implicated. Valid values are:                                                                                               |
| 0  | = DLN 00-2.                                                                                                                                           |
| 1  | = DLN 32-2.                                                                                                                                           |
| 2  | = The error stimulus was not the result of a DLN error.                                                                                               |
| h  | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This PRM is printed by the RINGMON kernel process when a recovery action is initiated.

## 6. CORRECTIVE ACTION

None.



**PRM:FExx-75xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 75yy zzzz zzzz hh hh hh**2. PRM SOURCE**

Common channel signaling (CCS) ring monitor (RINGMON) kernel process.

**3. FUNCTION**

To report a software fault received by RINGMON.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Failure. The bootstrap did not complete successfully and a phase resulted.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

y = Operating system fault code that was received by RINGMON.

z = Value of the program address where the fault occurred.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is printed by the RINGMON kernel process when a software fault is received.

## 6. CORRECTIVE ACTION

If variable  $\bar{y}$  is E1, then no action is required. This is a routine occurrence during initializations. For other fault codes, save output and refer to the TECHNICAL ASSISTANCE portion of the INTRODUCTION section of the Processor Recovery Messages manual.

**19. FExx-7F00 — Fexx-8FFF**

**PRM:FExx-7F01****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F01 xxyy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Critical failure occurred in CNI initialization kernel process (CNIINIT) at beginning of initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from CNIINIT.

x = Error number within the function. Valid values are:

01 = The attempt to connect to port PT\_UIMS failed.

03 = An attempt to send the application integrity monitor (AIM) the "BEGIN BOOT" message failed.

- y = The state CNIINIT was in when the PRM was issued.
- z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT is beginning its initialization and a critical failure occurred.

## 6. CORRECTIVE ACTION

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F02****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>a</sub> 7F02 01xx yyzz hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) can not create a critical child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into the CNIINIT process table points to the process that was being created.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

CNIINIT cannot create a critical process. bootchild() returned FAIL.

**6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F06****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F06 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) can not send imsdrv.p "BEGIN, NON-CRITICAL" message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "How to Interpret and Analyze Processor Recovery Messages" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into the CNIINIT process table. Points to the imsdrv.p process.



h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT cannot send a "BEGIN, NONCRIT" message to the imsdv.p process. s\_imsmsg() returned fail.

## **6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F07****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F07 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Failure occurred while CNI initialization kernel process (CNIINIT) was starting child processes.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "How to Interpret and Analyze Processor Recovery Messages" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = Error number within the function. Valid values are:

01 = CNIINIT failed an attempt to send the "COMPLETE NON-CRIT" message to the Application Integrity Monitor (AIM), "s\_usrmsg()" returned FAIL.

- 02 = CNIINIT failed an attempt to send the AIM the "COMPLETE LEVEL" message (indicates the entire boot is complete).
- 03 = CNIINIT failed an attempt to send the START\_PROC signal. "sendstart()" returned FAIL.
- 04 = The process was not in the correct state to receive the START\_PROC signal - internal CNIINIT error.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Valid values are:

| If "w" =  | "z" =                             |
|-----------|-----------------------------------|
| 01 and 02 | null data 0.                      |
| 03 and 04 | A pointer into the process table. |

- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has created the non-critical processes and is sending the children the START\_PROC signal.

## 6. CORRECTIVE ACTION

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F08****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F08 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received "START\_ACK" from child process in wrong state.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into the process table. Points to the process that CNIINIT was expecting the START\_ACK

event from.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

A child of CNIINIT sent a START\_ACK event, but the process table shows that the process currently being worked on was not in the correct state to have sent it.

## **6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F0A****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F0A 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) can not create a non-critical child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's child process creation table.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

The attempt by CNIINIT to send a message to the process manager requesting this non-critical process be created failed. bootchild() returned FAIL.

## **6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F10****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F10 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Failure occurred in sending "START\_PROC" to critical CNI initialization kernel process (CNIINIT) child processes.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = Error number within the function. Valid values are:

01 = CNIINIT failed an attempt to send the "COMPLETE LEVEL" message to the USER. s\_usrmsg() returned FAIL.



|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 | = CNIINIT failed to allocate a timer resource.                                                                                                        |
| 03 | = CNIINIT failed an attempt to send the "BEGIN NON-CRITICAL" message to interprocessor message switch (IMS). s_imsmsg() returned FAIL.                |
| 04 | = Unable to send a "START_PROC" event to a critical process. sendstart() returned FAIL.                                                               |
| 05 | = The process state of the process to receive the "START_PROC" signal is not "READY". CNIINIT internal error.                                         |
| x  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z  | = Index into CNIINIT's process table.                                                                                                                 |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT has created all the critical processes and is attempting to send them the "START\_PROC" signal or event.

## 6. CORRECTIVE ACTION

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F11****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F11 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common Network Interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timer "GARDTIM" fired while waiting on interprocessor message switch (IMS) message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

- z = Index into CNIINIT's process table.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The timer "GARDTIM" has timed out. CNIINIT was waiting for the user to send the "BEGIN NON-CRIT" message. This error occurs when CNIINIT attempts to send IMS a "BEGIN NON-CRIT" message. "s\_imsmsg()" returned FAIL.

## 6. CORRECTIVE ACTION

CNIINIT causes an ABORT.

**PRM:FExx-7F12****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F12 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received "START\_ACK" from child process in wrong state.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The processor recovery message (PRM) originates from CNIINIT. Valid values are:

01 = The start event START\_ACK was received from a child process which was not expected by CNIINIT.

x = The state CNIINIT was in when the error was detected.

y = The state CNIINIT was in prior to the state in which the error was detected.

z = Contains the value of prdex. The variable prdex is an index into CNIINIT's child process creation

table. To determine which process prdex points to, refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

A start event (START\_ACK) during an initialization has been received from a child process and prdex does not point to a process that could have sent it. Use prdex to determine which process was pointed to.

## 6. CORRECTIVE ACTION

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F1B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F1B wwx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Process found not running during CNI initialization kernel process (CNIINIT) level 1 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = Error number within the function. Valid values are:

01 = Received a "STOP\_ACK" event. The process currently being worked with was not in the "RUNNING" state. This is considered an error.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

During the start-up of a level 1 initialization, CNIINIT is executing a "STOP\_PROC" to stop processes. An error was detected.

## 6. CORRECTIVE ACTION

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F1C****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F1C 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) can not create a child process during level 1 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table.



h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

During a level 1 init, CNIINIT attempted to create a child process. The function bootchild() returned FAIL. Variable z indicates to the child process that CNIINIT was attempting to create. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.

## 6. CORRECTIVE ACTION

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F20****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F20 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Process table error found during CNI initialization kernel process (CNIINIT) level 1 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this processor recovery message (PRM).

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the error was detected.

y = The state CNIINIT was in prior to the state in which the error was detected.

z = Contains the value of prdex. The variable prdex is an index into CNIINIT's child process creation table. To determine which process prdex points to, refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

An error occurred during a level 1 re-creation attempt because of inconsistent data in the process table. The variable *z* can be used to determine the entry in the process table containing bad data.

## 6. CORRECTIVE ACTION

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F21****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F21 wwx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to finish critical boot.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = The error within the function. Valid values are:

01 = Timeout while waiting for IMS to complete an init.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for IMS to complete the critical portion of its boot. CNIINIT's timer fired.

## 6. CORRECTIVE ACTION

CNIINIT will cause an ABORT.

**PRM:FExx-7F23****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F23 xxyy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) can not ABORT the CNI.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are;

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are;

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = Error number within the function. Valid values are;

01 = An attempt to send the "ABORT" event to interprocessor message switch (IMS) has failed; sendevent() returned FAIL.

|    |                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 | = Cannot abort class "CPCLASSC"; termclass() returned FAIL.                                                                                           |
| 03 | = CNIINIT cannot allocate a timer resource.                                                                                                           |
| 04 | = Cannot reset SLMTIME's class to normal. setclass() returned FAIL.                                                                                   |
| y  | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| z  | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| h  | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

This state is entered when CNIINIT is attempting to ABORT the CNI.

## 6. CORRECTIVE ACTION

Chances are that the ABORT will not be complete. In order to clean the system up, an operating system phase 2 or higher is recommended.

**PRM:FExx-7F24****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F24 01yy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to finish level 1B initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

y = The state CNIINIT was in when the PRM was issued.

z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).



h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT timed out waiting for IMS to complete a level 1B initialization. At this point, CNIINIT has completed its level 1 initialization.

## **6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FE<sub>xx</sub>-7F25****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 7F25 01<sub>xx</sub> yy<sub>zz</sub> hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on child process response.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

A timeout has occurred while CNIINIT was waiting for a child to acknowledge the receipt of a "START\_PROC" or "STOP\_PROC" signal during a level 1 init.

## **6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F26****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 7F26 01yy zz00 hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on message to start level 1 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

y = The state CNIINIT was in when the PRM was issued.

z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section

of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT has sent the application integrity monitor (AIM) the "BEGIN LEVEL 1" message but the AIM has failed to return the message to start the level 1 and CNIINIT timed out.

## **6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F27****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 7F27 01xx yyzz hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on child process creation acknowledgement.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT timed out waiting for the process manager or the child process to acknowledge the creation of the child process indicated at z.

## **6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F33****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F33 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error detected while checking for dead CNI initialization kernel process (CNIINIT) child processes.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = Error number within the function. Valid values are:

01 = CNIINIT is in disk independent operation (DIOP) and discovered a dead critical process.



02, 03 = Unable to allocate a timer resource.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's child process creation table.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This function is entered when the "PRCK\_TO" timeout is received. The timeout is so CNIINIT can run a check through the process table to find any dead processes that need to be created. An error was detected.

## 6. CORRECTIVE ACTION

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F36****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F36 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received "START\_ACK" from child process in wrong state.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into the process table of CNIINIT.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

A CNIINIT child process has sent the "START\_ACK" event, but the process table flag for this process indicates it is not in the "READY" state. This is part of the LEVEL 1 initialization sequence.

## **6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F3A****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F3A wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected an error while recreating a child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = The error within the function. Valid values are:

01 = While in disk independent operation (DIOP), CNIINIT discovered a dead critical process.

02 = Unable to allocate a timer resource.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was busy recreating a child process. An error was detected.

## 6. CORRECTIVE ACTION

CNIINIT will ABORT.

**PRM:FExx-7F43****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FE da 7F43 01yy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on recreation of imsdrv.p during level 1 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this processor recovery message (PRM).

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM) originates from CNIINIT.

01 = Timeout occurred while waiting to attempt to create an interprocessor message switch (IMS).

y = The state CNIINIT was in when the error was detected.

z = The state CNIINIT was in prior to the state in which the error was detected.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

Timeout occurred while attempting the re-creation of imsdrv.p during a CNI level 1 initialization.

**6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F47****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 7F47 01xx yyzz hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

sendstart() returned FAIL while CNI initialization kernel process (CNIINIT) was recreating a process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table.



h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT was busy recreating a process. sendstart() returned FAIL.

## **6. CORRECTIVE ACTION**

CNIINIT will ABORT.

**PRM:FExx-7F4A****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F4A 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) can not send START\_PROC message to child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this processor recovery message (PRM).

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the error was detected.

y = The previous state CNIINIT was in subsequent to the state in which the error was detected.

z = This is the index into the process table of the process.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT has created a child process after it terminated and it has acknowledged it is running, but the attempt to send the child the START\_PROC signal has failed.

## **6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FE<sub>xx</sub>-7F4B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 7F4B wwx<sub>x</sub> yyzz hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) child process terminated.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this processor recovery message (PRM).

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = Error number within the function. Valid values are:

02 = An attempt to recreate a terminated child has failed.

05 = The process table restart code type for the terminated child is invalid.

- x = The state CNIINIT was in when the error was detected.
- y = The previous state CNIINIT was in subsequent to the state in which the error was detected.
- z = Contains the value of prdex. The variable prdex is an index into CNIINIT's child process creation table. To determine which process prdex points to, refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has received a message indicating a child process has terminated.

## 6. CORRECTIVE ACTION

For 02 and 05, CNIINIT causes a CNI ABORT.

**PRM:FExx-7F4E****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 7F4E 01yy zz00 hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to respond to "ABORT" message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

y = The state CNIINIT was in when the PRM was issued.

z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT timed out waiting for IMS to respond to the "ABORT" event it was sent. This is following a timeout waiting for IMS to respond to a application integrity monitor (AIM) request for a LEVEL 1 initialization.

## **6. CORRECTIVE ACTION**

CNIINIT causes an ABORT.

**PRM:FExx-7F51****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F51 02xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received message that imsdrv.p died in minimum mode (MINMODE).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this processor recovery message (PRM).

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the error was detected.

y = The state CNIINIT was in prior to the state in which the error was detected.

z = Contains the value of imsdrv.p index into CNIINIT's child process creation table. To determine which process the value points to, refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.



h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT has received a message that the imsdrv.p process has died during MINMODE.

## **6. CORRECTIVE ACTION**

CNIINIT causes a CNI ABORT.

**PRM:FExx-7F54****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F54 01yy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received FLT\_SIINIT [administrative module (AM) level 51] while executing critical code.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

y = The state CNIINIT was in when the PRM was issued.

z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

A FLT\_SINIT occurred while CNIINIT was executing critical code.

## **6. CORRECTIVE ACTION**

CNIINIT causes an ABORT.

**PRM:FExx-7F58****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F58 01yy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) received FLT\_SIINIT [administrative module (AM) level 51].

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from CNIINIT.

y = The state CNIINIT was in when the error was detected.

z = The state CNIINIT had been in before the state in which the error was detected.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

An operating System FLT\_SINIT (AM level 51) occurred. CNIINIT does not perform any action immediately, but waits on a response from imsdrv.p before taking action. This PRM results when the timer guarding imsdrv.p times down. The assumption is that imsdrv.p is hosed up. As a result, CNIINIT will cause a CNI ABORT.

## **6. CORRECTIVE ACTION**

CNIINIT will cause a CNI ABORT.

**PRM:FExx-7F59****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F59 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to respond to level 1B request.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = Error number within the function. Valid values are:

01 = sendevent() function call returned FAIL. Unable to send the "ABORT" event to IMS.

02 = Unable to allocate a timer resource.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Insignificant.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for IMS to respond for a request for a LEVEL 1B and it timed out.

## 6. CORRECTIVE ACTION

CNIINIT causes an ABORT.

**PRM:FExx-7F5A****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 7F5A wwx<sub>x</sub> yyzz hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**CNI initialization kernel process (CNIINIT) cannot send imsd<sub>rv</sub>.p "BEGIN, NON-CRITICAL" message.**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

w = The error within the function. Valid values are:

01 = s\_imsmsg() returned FAIL, unable to send a "BEGIN NONCRIT" message to interprocessor message switch (IMS).



02 = Unable to allocate a timer resource.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Insignificant.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has completed LEVEL 1 initialization and tried to send IMS the message to "BEGIN NON-CRITICAL" initialization. An error was encountered.

## 6. CORRECTIVE ACTION

CNIINIT causes an ABORT.

**PRM:FExx-7F5B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F5B 0lxx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

bootchild() returned FAIL when creating imsdrv.p in minimum mode (MINMODE).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Insignificant.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT was attempting to create imsdrv.p for MINMODE and the function bootchild() returned a FAIL.

## **6. CORRECTIVE ACTION**

CNIINIT causes an ABORT.

**PRM:FExx-7F5D****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>a</sub> 7F5D 01xx yyzz hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) cannot create interprocessor message switch (IMS) for minimum mode (MINMODE).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Insignificant.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT requested the process manager to create IMS for MINMODE and it returned an error message.

## **6. CORRECTIVE ACTION**

CNIINIT causes an ABORT.

**PRM:FExx-7F5E****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F5E 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) cannot send "REQ LEVEL 4" message to interprocessor message switch (IMS) in minimum mode (MINMODE).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Insignificant.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT has created IMS for MINMODE and the attempt to send it the "REQ LEVEL 4" message has failed.

## **6. CORRECTIVE ACTION**

CNIINIT causes an ABORT.

**PRM:FExx-7F5F****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F5F 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) cannot create interprocessor message switch (IMS) for minimum mode (MINMODE).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).



z = Insignificant.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT requested the process manager to create IMS for MINMODE, and it returned an error message.

## **6. CORRECTIVE ACTION**

CNIINIT causes an ABORT.

**PRM:FExx-7F60****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F60 wwx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered after completing CNI minimum mode (MINMODE) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = Error number within the function. Valid values are:

01 = The attempt to send the Application Integrity Monitor (AIM) the "COMPLETE LEVEL" message failed; s\_usrmsg() returned FAIL.

- 02 = Unable to allocate a timer resource.
- 03 = An attempt to send the "BEGIN NON-CRIT" message to interprocessor message switch (IMS) failed; s\_imsmsg() returned FAIL.
- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has completed the CRITICAL portion of a MINMODE initialization. An error was encountered.

## 6. CORRECTIVE ACTION

CNIINIT causes an ABORT.

**PRM:FExx-7F62****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F62 xxyy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to complete minimum mode (MINMODE) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The error within the function. Valid values are:

01 = Timeout waiting for IMS to complete a level 4 MINMODE initialization.

02 = Unable to allocate a timer resource.

y = The state CNIINIT was in when the PRM was issued.

z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was waiting for IMS to complete in MINMODE and it timed out.

## 6. CORRECTIVE ACTION

CNIINIT causes an ABORT.

**PRM:FExx-7F63****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 7F63 xxyy zz00 hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) cannot ABORT due to system errors.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this processor recovery message (PRM).

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from CNIINIT.

x = Error number within the function. Valid values are:

01 = An attempt to allocate a message buffer has failed.

02 = An attempt to queue a message has failed.

y = The state CNIINIT was in when the error was detected.

- z = The state CNIINIT was in prior to the state in which the error was detected.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT is in the process of ABORTING CNI and terminating itself. The errors described are system problems.

## **6. CORRECTIVE ACTION**

CNIINIT has requested a CNI ABORT and an IMS ABORT, and these errors indicate a total system problem requiring a system boot.

**PRM:FExx-7F64****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 7F64 wwx<sub>x</sub> yyzz hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**CNI initialization kernel process (CNIINIT) can not send imsd<sub>rv</sub>.p "BEGIN, NON-CRITICAL" message during minimum mode (MINMODE) initialization.**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNIINIT.

w = The error number within the function. Valid values are:

01 = Unable to send "BEGIN NONCRIT" message to interprocessor message switch (IMS); s\_imsmsg() returned FAIL.

x = The state CNIINIT was in when the PRM was issued.



- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Insignificant.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was attempting to send to IMS the "BEGIN NON-CRITICAL" message during a MINMODE initialization, and the message failed.

## 6. CORRECTIVE ACTION

CNIINIT causes an ABORT.

**PRM:FExx-7F65****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F65 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

s\_imsmsg() returned FAIL when attempting to start non-critical CNI initialization kernel process (CNIINIT) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Insignificant.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The user has failed to respond with the "BEGIN NON-CRITICAL" message during MINMODE and CNIINIT timed out. CNIINIT began the "NON-CRITICAL" anyway and was attempting to send interprocessor message switch (IMS) the "BEGIN NON-CRITICAL" message. s\_imsmsg() returned FAIL.

## 6. CORRECTIVE ACTION

CNIINIT causes an ABORT.

**PRM:FExx-7F66****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F66 xxyy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) cannot send "COMPLETE" message to application integrity monitor (AIM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

x = Error number within the function. Valid values are:

01 = An attempt to send the AIM the "COMPLETE LEVEL" message failed;  
s\_usrmsg() returned FAIL.

02                   = An attempt to send the AIM the "COMPLETE NON-CRITICAL" message failed; s\_usrmsg() returned FAIL.

y                   = The state CNIINIT was in when the PRM was issued.

z                   = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

h                   = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has received the "COMPLETE NON-CRITICAL" message from the IMS. An error was encountered.

## 6. CORRECTIVE ACTION

CNIINIT causes an ABORT.

**PRM:FExx-7F67****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F67 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) cannot abort child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this processor recovery message (PRM).

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNIINIT.

x = The state CNIINIT was in when the error was detected.

y = The previous state CNIINIT was in subsequent to the state in which the error was detected.

z = This is the index into the process table of the process.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT has created a child process after it terminated but CNIINIT timed out waiting for the child to acknowledge its running. An attempt to send the process an abort event has failed.

## **6. CORRECTIVE ACTION**

CNIINIT returns to its steady state.

**PRM:FExx-7F68****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F68 04xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) can not send "START\_PROC" message to child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this processor recovery message (PRM).

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNIINIT.

x = The state CNIINIT was in when the error was detected.

y = The previous state CNIINIT was in subsequent to the state in which the error was detected.

z = This is the process table index of the child that the operating system trap (OST) trapped to CNIINIT.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section



of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

During the recreation of the terminated child process, the child OST trapped to CNIINIT but the attempt to send the child START PROCESSING signal failed.

## **6. CORRECTIVE ACTION**

Fail return code from setimr function call will be ignored by CNIINIT and the old state will be restored.

**PRM:FExx-7F88****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F88 01yy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on the interprocessor message switch (IMS) to finish its boot.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

y = The state CNIINIT was in when the PRM was issued.

z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

CNIINIT has timed out waiting for IMS to complete its boot.

## **6. CORRECTIVE ACTION**

CNIINIT causes an ABORT.

**PRM:FExx-7F89****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F89 01xx yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on child process response.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from CNIINIT.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Index into CNIINIT's process table.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

During a boot, CNIINIT has timed out waiting for a child process to acknowledge receipt of the "START\_PROC" signal.

## **6. CORRECTIVE ACTION**

CNIINIT causes an ABORT.

**PRM:FExx-7F8B****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F8B wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on child process response.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Timeout while waiting for child process to acknowledge creation.

02 = Unable to send "REQUEST LEVEL" message to interprocessor message switch (IMS), s\_imsmsg() returned FAIL.

03 = Timeout while waiting for the IMS "BEGIN BOOT" message.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was in a boot. A timeout occurred while waiting on a child process.

## 6. CORRECTIVE ACTION

CNIINIT causes an ABORT.

**PRM:FExx-7F96****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F96 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) state table error.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = Error number within the function. Valid values are:

01 = The event received by the ch\_state function is out of range (it is greater than the maximum permitted).



- 02 = A request for a state change is being processed by `ch_state`. However, a state change is not possible because this is an illegal state change attempt.
- 03 = During a state transition attempt, the global value of "state" was found to be out of range.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable `old_state`).
- z = Contains the value of the event that was being processed at the time the error was discovered.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT is a table driven finite state machine. The table is currently sized at 120 states (rows) X 35 events (columns) (both the number of states and events vary with the software release and features present). The function `ch_state` administrates the table. During the processing of a state change attempt, an error was discovered.

## 6. CORRECTIVE ACTION

**PRM:FExx-7F9F****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7F9F wwxz yyzz hh hh hh

**2. PRM SOURCE****3. FUNCTION****4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent *UNIX*® RTR Operating System initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the *UNIX*® RTR Operating System initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = Error number within the function. Valid values are:

02 = The kfault function received a fault (general in nature).

x = The state CNIINIT was in when the PRM was issued.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Contains the value of fault.                                                                                                                        |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

The kfault() function processes received faults for CNIINIT. This PRM originates when a significant fault is received. There will be additional information printed on the receive-only printer (ROP) that should be saved.

## 6. CORRECTIVE ACTION

**PRM:FExx-7FA0****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7FA0 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered using acknow() to return creation messages to CNI initialization kernel process (CNIINIT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = Error number within the function. Valid values are:

01 = A process could not be created because the pfile did not exist (operating system error "MSNOPFILE").

02 = A process could not be created because the system is in disk independent operation (DIOP).

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Contains the value of child\_num. The variable child\_num is an index into CNIINIT's child process creation table. To determine which process child\_num points to, refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The `acknow()` function is used to handle return codes following process creation attempts.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                             |
|----------|-----------------------------------------------------------------------------------------------------|
| 01       | Decode variable <i>z</i> and insure the process file exists.                                        |
| 02       | The system is in DIOP, the disk hardware must be repaired before CNIINIT can recreate this process. |

**PRM:FExx-7FA3****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7FA3 xxyy zz00 hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) cannot ABORT the CNI.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNIINIT.

x = Error number within the function. Valid values are:

01 = CNIINIT was unable to allocate an operating system message buffer.

02 = CNIINIT was unable to queue an operating system message buffer to the system scheduler.

- y = The state CNIINIT was in when the PRM was issued.
- z = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was attempting to "kill" itself at the end of a CNI/interprocessor message switch (IMS) abort. A failure occurred.

## 6. CORRECTIVE ACTION

A zombie "CNIINIT" remains in a congested system. If common channel signaling (CCS) is critical to your application, then phase the operating system at level 2.

**PRM:FExx-7FB0****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 7FB0 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered using com\_init() to reclaim resources for CNI initialization kernel process (CNIINIT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = kportid() returns "BADPORT" when attempting to ID "PT\_UIMS".

02 = kconport() returns "FAIL" when attempting attach to "PT\_UIMS".



03 = Another process (not CNIINIT) is attached to "PT\_UIMS".

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Not used.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated from the com\_init() function. com\_init is responsible for zeroing and (re)claiming resources at the beginning of boot and full process initializations (FPI). Trouble was encountered when attempting to (re)claim "PT\_UIMS", a critical CNIINIT resource.

## 6. CORRECTIVE ACTION

The initialization will fail the application integrity monitor (AIM) software will probably cause an automatic CNI boot initialization.

**PRM:FExx-7FDD****Software Release:** 5E12 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> 7FDD wwx<sub>x</sub> yyzz hh hh hh**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) child process terminated.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = Informational PRM.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

7F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

02 = A critical process died unexpectedly.

x = The state CNIINIT was in when the PRM was issued.

- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process. Refer to Table 1 in the APP:CNIINIT-TBL appendix in the Appendixes section of the PRM manual.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT received a message from the operating system indicating that a process had died.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                  |
|----------|------------------------------------------|
| 02       | CNIINIT will begin a FPI initialization. |

In any case, the software will recover automatically. No manual intervention is necessary.

**PRM:FExx-8F09****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PMP\_p FEda 8F09 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) encountered an error during full process initialization (FPI).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = CNIINIT was attempting to pcreate a critical process and the bootchild() function returned FAIL. Generally, bootchild() returns FAIL if it is unable to allocate a critical resource needed to send the pcreate message to the process manager.

02 = The function sendevent() returned FAIL when CNIINIT attempted to send the FPI request event to imsdv.p.

03 = The function `setimr()` returned FAIL when CNIINIT attempted to set a timer to wait for a response from `imsdrv.p` following a request for an interprocessor message switch (IMS) FPI initialization.

04 = The function `sendchild()` returned FAIL when CNIINIT attempted to send the FPI request event to a critical child process.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable `old_state`).

z = Index into CNIINIT's process table that points to the child process.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT is in the create or "FPI" phase of the initialization. It is working with its critical processes only. An error occurred.

## 6. CORRECTIVE ACTION

This initialization will be failed and an automatic boot initialization stimulated by the application integrity monitor (AIM) software will likely result.

**PRM:FExx-8F0F****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F0F wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on imsdrv.p during full process initialization (FPI).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = imsdrv.p failed to complete its critical initialization in the allotted time (timeout occurred).

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to imsdrv.p.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT had completed the early portion of its FPI or boot initialization. imsdrv.p had been notified to begin its critical portion of the initialization and apparently, it did not finish. A timeout occurred.

## 6. CORRECTIVE ACTION

This initialization will be failed and an automatic boot initialization stimulated by the application integrity monitor (AIM) software will likely result.

**PRM:FExx-8F10****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F10 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

sendchild() returned FAIL when attempting to send message to CNI initialization kernel process (CNIINIT) child process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The function sendchild() returned a FAIL when attempting to send the "START\_PROC" event to a CNIINIT CRITICAL child process.



- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process that sendchild() was to send the event to.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was in the later portion of the full process initialization (FPI) or boot initialization. It was notifying its critical child processes that interprocessor message switch (IMS) channels were available. The function that performs the notification returned FAIL.

## 6. CORRECTIVE ACTION

This initialization will be failed and an automatic boot initialization stimulated by the application integrity monitor (AIM) software will likely result.

**PRM:FExx-8F13****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F13 wwww yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on child process response to "START\_PROC" message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Timeout occurred while waiting for a critical child process to respond to the "START\_PROC" event.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Index into CNIINIT's process table that points to the child process.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was in the later portion of the full process initialization (FPI) or boot initialization. It was notifying its critical child processes that interprocessor message switch (IMS) channels were available. A timeout occurred while CNIINIT was waiting for a response from the child process.

## 6. CORRECTIVE ACTION

This initialization will fail and an automatic boot initialization stimulated by the USER software will likely result.

**PRM:FExx-8F14****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F14 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

setimr() returned FAIL when attempting to allocate a timer for CNI initialization kernel process (CNIINIT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

02 = Unable to allocate a timer.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Not used.                                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT was attempting to allocate a timer to guard the cltraf() operating system trap (OST) from signal link monitor kernel process (SLMK). No timers were available; setimr() returned FAIL.

## 6. CORRECTIVE ACTION

CNIINIT will request a full process initialization (FPI).

**PRM:FExx-8F20****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F20 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on interprocessor message switch (IMS) to respond to level 1B request.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = IMS failed to respond to a request for a level 1B initialization. A timeout occurred.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Not used.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was in the beginning stages of a level 1 initialization. CNIINIT sent a message to IMS asking for a level 1B initialization. The guard timer failed.

## 6. CORRECTIVE ACTION

This initialization will be failed and a full process initialization (FPI) will be initiated.

**PRM:FExx-8F22****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F22 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) detected failure of a critical process during level 1 initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = A critical process failure was detected by CNIINIT.



|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Not used.                                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT was in the beginning stages of a level 1 initialization. CNIINIT ran a check to see if all critical processes were alive and well. A failed critical process was detected.

## 6. CORRECTIVE ACTION

This initialization will be failed and a full process initialization (FPI) will be initiated.

**PRM:FExx-8F23****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F23 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

CNI initialization kernel process (CNIINIT) timed out waiting on application integrity monitor (AIM) to respond to "BEGIN LEVEL 1" message.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Timeout while waiting for a AIM response to the "BEGIN LEVEL 1" message.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Not used.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was in the beginning stages of a level 1 initialization. CNIINIT sent the CNI AIM the "BEGIN LEVEL1" message. A guard timer fired.

## 6. CORRECTIVE ACTION

This initialization will be failed and a full process initialization (FPI) will be initiated.

**PRM:FExx-8F39****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F39 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

sendevent() returned FAIL during full process initialization (FPI).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the function. Valid values are:

01 = Send the CI\_FPIEV event to itself.

|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Not used.                                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT was attempting to begin an automatic FPI by sending the CI\_FPIEV event to itself. The operating system function sendevent() returned FAIL.

## 6. CORRECTIVE ACTION

This initialization will be failed and the CNI application integrity monitor (AIM) software will likely stimulate a CNI/interprocessor message switch (IMS) abort followed by a CNI/IMS boot level initialization.

**PRM:FExx-8F3A****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F3A wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error encountered while informing application integrity monitor (AIM) of "FAILED" CNI initialization kernel process (CNIINIT) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = The operating system function kportid() returned "BADPORT" or "NULLPRC" when CNIINIT attempted to get the CNI AIM process identification (PID).

02 = The operating system function sendevent() returned "FAIL" when CNIINIT attempted to send the "CI\_FAILD" event to the CNI AIM.

03 = CNIINIT was successful in sending the "CI\_FAILED" event to the CNI AIM.

x = The state CNIINIT was in when the PRM was issued.

y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).

z = Not used.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT has "FAILED" an initialization and is attempting to notify the CNI AIM by sending the "CI\_FAILED" event. An error may have occurred.

## 6. CORRECTIVE ACTION

| If "w" = | Action:                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 or 02 | There is a serious problem with communication between CNIINIT and the CNI AIM software. A manual boot initialization is called for.                                                                                                                |
| 03       | This is the notification to user personnel that CNIINIT has "FAILED" an initialization. CNI AIM software has been notified. Make sure that the machine appears to be recovering, that is, the usual startup signs of a boot initialization appear. |

**PRM:FExx-8F44****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F44 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

No timers available for interprocessor message switch (IMS) non-critical initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "How to Interpret and Analyze Processor Recovery Messages" section of the User Guidelines.

8F = The PRM originates from the CNI initialization kernel process (CNIINIT).

w = The error within the function. Valid values are:

01 = No timers were available for CNIINIT to guard the IMS non-critical sequence.



|   |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| x | = The state CNIINIT was in when the PRM was issued.                                                                                                   |
| y | = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old_state).                                                  |
| z | = Not used.                                                                                                                                           |
| h | = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits. |

## 5. EXPLANATION

CNIINIT is in the middle stage of a non-critical initialization. All CNIINIT non-critical processes have had a least one chance to start. CNIINIT is preparing to notify IMS to start its non-critical initialization. All CNIINIT timers were cleared. CNIINIT attempted to allocate a new timer to guard the IMS non-critical sequence. No timers were available.

## 6. CORRECTIVE ACTION

CNIINIT will enter the non-operational state. A full process initialization (FPI) should be manually initiated at some point in the future to clear this problem up.

**PRM:FExx-8F54****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8F54 wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

No timers available for CNI initialization kernel process (CNIINIT).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = Unable to allocate a timer for the "NCscanner" logic.

02 = Unable to allocate a timer to guard the completion of the interprocessor message

switch (IMS) non-critical initialization.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Not used.
- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

CNIINIT was attempting to clear up a timer allocation problem by re-initializing the CNIINIT timer array. Upon attempting to allocate a new timer following the re-initialization, another failure occurred.

## 6. CORRECTIVE ACTION

CNIINIT will enter the non-operational state. A full process initialization (FPI) should be manually initiated at some point in the future to clear this problem up.

**PRM:FExx-8FAA****Software Release:** 5E10 and later**Application:** CNI**Type:** Output**1. PRM FORMAT**

PRM\_p FEda 8FAA wwxz yyzz hh hh hh

**2. PRM SOURCE**

Common network interface (CNI) initialization process.

**3. FUNCTION**

Error detected in CNI initialization kernel process (CNIINIT) child process table.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

Refer to the "HOW TO INTERPRET AND ANALYZE PROCESSOR RECOVERY MESSAGES" section of the User Guidelines.

8F = The PRM originates from the CNIINIT.

w = The error within the function. Valid values are:

01 = "tout1" for a child process is out of range ( ≤ 0 ).

02 = "tout2" or "tout3" for the child process "imsdrv.p" is out of range ( ≤ 0 ).

- 03 = The signal link monitor kernel process (SLMK) is not marked to "receive" the START\_PROC event from CNIINIT.
- 04 = The utility ID for this child process is out of range (value is greater than the allowed maximum value).
- 05 = The port number for this child process is out of the range permitted for CNI processes.
- 06 = Inconsistent data, the number of processes found in the critical process creation chain does not match the number of processes that are "marked" as critical.
- 07 = Inconsistent data, the number of processes found in the non-critical process creation chain does not match the number of processes that are "marked" as non-critical.
- 08 = Inconsistent data, the number of processes found in the "start/stop" chain does not match the number of processes that are "marked" as "start/stop".
- 09 = Inconsistent data, the number of processes found in CNIINIT's child process table does not match the number of processes that are "marked" as either critical or non-critical.

- x = The state CNIINIT was in when the PRM was issued.
- y = The state CNIINIT was in just prior to the state in which the PRM was issued (variable old\_state).
- z = Valid values are:

| If "w" = | "z" =                                                                                                 |
|----------|-------------------------------------------------------------------------------------------------------|
| 01 - 05  | An index to the entry in CNIINIT's child process table that is currently under examination.           |
| 06 - 08  | The number of processes found in the particular chain.                                                |
| 09       | Represents the number of processes found in the table (determined by the presence of a process name). |

- h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

This PRM is generated by the "ptaud()" function which is responsible for examining the CNIINIT child process table for data errors. An error was discovered in the static (write protected) data in the table.

## 6. CORRECTIVE ACTION

CNIINIT will fail the initialization. The application integrity monitor (AIM) software will likely cause an automatic boot initialization. If the initialization is successful, then no further action is necessary.

If the CNIINIT p-file (copy of CNIINIT on the disk) is corrupt or incorrect, the machine will "roll" in initializations with no hope of automatic correction. In this case, the p-file must be replaced with a working copy of CNIINIT before the initialization could be expected to work.

20. FExx-9000 — FFFF-FFFF

**PRM:FExx-CA00****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> CA00 0000 0000 hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM).

**3. FUNCTION**

Fault recovery administrative module (AM) processor switch.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

h = Hardware status digits. Refer to Figures 2-3 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

An unconditional switch of the call processing (CP) AM processors has been requested by switch maintenance, and the off-line processor is not in standby. A hard switch of processors and/or an initialization will follow.

**6. CORRECTIVE ACTION**

None.



**PRM:FExx-F0xx****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda F0xx yyyy zzzz hh hh hh

**2. PRM SOURCE**

Partition mounting kernel process (PMKP).

**3. FUNCTION**

Failure when mounting the no5text or the no5odd disk partitions, or a failure to create the application integrity monitor (AIM) kernel process.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

F0 = Application function (PMKP failure).

x = Failure code for the specified error encountered. Valid values are:

01 = Unable to allocate operating system message buffer.

02 = Unable to find segment identification (ID) for segment containing oddmntcmd.

|   |      |                                                                                                                                                                                                                  |
|---|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | 03   | = Unable to queue an operating system message.                                                                                                                                                                   |
|   | 04   | = Acknowledgment message from file manager or process manager indicates an error.                                                                                                                                |
|   | 05   | = Unable to lock a segment into memory for I/O.                                                                                                                                                                  |
|   | 06   | = Received a message with an unknown field.                                                                                                                                                                      |
|   | 07   | = PMKP was faulted.                                                                                                                                                                                              |
|   | 08   | = Received a message which was not an acknowledgment message.                                                                                                                                                    |
| y |      | = Additional data pertaining to the failure. The meaning of this data will differ for each failure code. When <i>w</i> is 04, it contains the error code received in the message.                                |
| z |      | = Additional data pertaining to the failure. The meaning of this data will differ for each failure code. When <i>w</i> is 04, it contains the ID field of the acknowledgment message received. Valid values are: |
|   | 0001 | = no5text mount request message.                                                                                                                                                                                 |
|   | 0002 | = open AIMRC file request message.                                                                                                                                                                               |
|   | 0003 | = open AIMRCTMP file request message.                                                                                                                                                                            |
|   | 0004 | = read AIMRC (or AIMRCTMP) file request message.                                                                                                                                                                 |
|   | 0005 | = no5odd mount request message.                                                                                                                                                                                  |
|   | 0006 | = AIM creation request message.                                                                                                                                                                                  |
|   | 0007 | = close AIMRC (or AIMRCTMP) file request message.                                                                                                                                                                |
| h |      | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.                                                            |

## 5. EXPLANATION

This PRM is printed to report that PMKP has encountered an error. PMKP is the very first application process that is created during an operating system high level initialization (D2-D4). It is created by operating system after all boot image processes have been booted in and initialized. PMKP is on the operating system PCREATE list and is located in the /prc partition. PMKP mounts the /notext and the /no5odd disk partitions and creates the AIM kernel process. AIM is also located in the /prc partition but all its shared libraries are in the /no5text/prc partition.

## 6. CORRECTIVE ACTION

If *w* is 04, use the error code in the message to determine the nature of the failure; use the ID value to determine what was being done when the failure occurred; and check the disk files, directories and partitions, that are required to perform the failing step, exist in their proper locations.

**PRM:FExx-FF02****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF02 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

AIM process requests an administrative module (AM) phase [using a system integrity software inconsistency macro (ASSERT) call].

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF02 = Application function [switch phase trigger (AIM ASSERT)].

z = ASSERT code (hexadecimal) indicating the problem which triggered the phase request. These ASSERT codes are documented in the 5ESS<sup>®</sup> Switch Asserts Manual, 235-600-500, and also on the following pages.

| HEX | SYMBOL | ASSERT DESCRIPTION |
|-----|--------|--------------------|
|-----|--------|--------------------|

|     |               |                                                                                                                                                                                                              |
|-----|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2BC | SIINVEV       | AIM received an event that is invalid.                                                                                                                                                                       |
| 2BD | INBMS_STAT    | Bad ms_stat in message incoming to AIM.                                                                                                                                                                      |
| 2BE | SIBMS_TYPE    | Bad ms_type in input message to AIM.                                                                                                                                                                         |
| 2BF | SIBIN_TYPE    | Bad in_type passed to INactrl() in AIM.                                                                                                                                                                      |
| 2C0 | SIBDSI_TYPE   | Bad si_type in operating system utility message (refer to si/INdumsg.h).                                                                                                                                     |
| 2C1 | SIBSI_TYPE    | Bad si_type in initialization utility message (refer to db/MGinumt.h).                                                                                                                                       |
| 2C2 | SIBTYPE       | Bad OSDS message type in incoming message to AIM.                                                                                                                                                            |
| 2C3 | INSMKPPF      | Failure encountered when faulting SMKP.                                                                                                                                                                      |
| 2C4 | INBPUCRPORT   | Failure to get PUCRs PID from its port ID.                                                                                                                                                                   |
| 2C5 | SIFASRTMSG    | Assert "library" failed when trying to send assert failure data to AIM. A special event is reserved in AIM for this purpose. This is probably an operating system message buffer overload problem.           |
| 2C6 | INBAIMPORT    | AIM encountered a failure when attempting to attach to its port. AIM will request a D2/S6 (operating system level 2) initialization.                                                                         |
| 2C7 | INBCMCKPACK   | AIM received a failure acknowledgment from CMKP when it attempted to attach to its slot for OSDS communication. AIM will request a D2/S6 (operating system level 2) initialization.                          |
| 2C8 | INBOSDSPORT   | AIM encountered a failure when attempting to get OSDS's process ID from its port ID.                                                                                                                         |
| 2C9 | INBTIMER      | AIM received a failure acknowledgment from the prtimer() operating system primitive when trying to attach to its repetitive timer. AIM will request a D2/S6 (operating system level 2) initialization.       |
| 2CA | INITTIMEOUT   | Init time allowance has been exceeded without AIM receiving success indication from essential components.                                                                                                    |
| 2CB | SIFAULTED     | The AIM process was faulted by the operating system. The saved state & active message buffer (if any) are dumped to the stack for the ASSERT printout. An internal AIM recovery and restart will be invoked. |
| 2CC | INBAPPLVL     | Invalid application initialization level indicated in AIM's private data.                                                                                                                                    |
| 2CD | INDUPII       | Redundant initialization progress message received.                                                                                                                                                          |
| 2CE | INMSGUNE      | Unexpected message of the type used for the system initialization message from SIM. The message buffer will be dumped to the stack for the ASSERT printout.                                                  |
| 2CF | INAMFAIL      | Operating system audit manager is not responding properly to AIM's request.                                                                                                                                  |
| 2D0 | INBCMCKPPORT  | Failure attempting to get CMKP's process ID from its port ID.                                                                                                                                                |
| 2D1 | SIBMS_SUBTYPE | Bad ms_subtype in message incoming to AIM.                                                                                                                                                                   |
| 2D2 | I3BCOMMPORT   | AIM encountered a failure when attempting to get the process ID of the process that handles communication with OSDS environment from a port ID.                                                              |
| 2D3 | ST_OSDSFAIL   | AIM's tight loop detector detected an absence of activity in OSDS-C while under control of the OSDS operating system.                                                                                        |
| 2D4 | ST_RCVYFAIL   | AIM's tight loop detector detected an absence of activity in OSDS-C while under control of SICO recovery.                                                                                                    |
| 2D5 | INSANFAIL     | AIM failed to attach properly to sanity timer provided by SIM.                                                                                                                                               |
| 2D6 | INPMGRAFAIL   | Process manager failed to create essential process.                                                                                                                                                          |
| 2D7 | IMBMS_TYPE    | Bad ms_type routed to IMactrl() in AIM.                                                                                                                                                                      |
| 2D8 | IMBIN_TYPE    | Bad in_type parameter passed to IMactrl() in AIM.                                                                                                                                                            |
| 2D9 | IM_LOOPCNT    | AIM activity counter for OKP had what seemed to be a wild written value in it.                                                                                                                               |
| 2DA | IM_OSDSMODE   | AIM activity check encountered an invalid OSDS mode in OKP.                                                                                                                                                  |
| 2DB | INSICOTCREQ   | AIM received indication that SICO requested a D2 initialization.                                                                                                                                             |
| 2DC | SIOSDSFF      | AIM encountered a failure when faulting OSDS.                                                                                                                                                                |
| 2DD | INIT_FLT      | AIM was faulted during a system initialization.                                                                                                                                                              |
| 2DE | SIAMSGFAULT   | AIM was faulted while processing an incoming message.                                                                                                                                                        |
| 2DF | SI_NO_SDE     | AIM was faulted indicating no segment descriptor entries.                                                                                                                                                    |
| 2E0 | SI_NO_DCT     | AIM was faulted indicating no dispatcher control tables.                                                                                                                                                     |
| 2E1 | SI_KLOCK      | AIM faulted indicating that the AM was experiencing a kernel level lockout. AIM will request an operating system level 1 initialization.                                                                     |
| 2E2 | IN_SINIT_TO   | AIM timed out waiting for initialization message from SIM after an operating system level 1 initialization.                                                                                                  |
| 2E3 | INUNSUPPSEQ   | Application Process in an invalid sequence state.                                                                                                                                                            |
| 2E5 | INBSEQSTATE   | Application process has an invalid sequence state or a value that is not consistent with the data stored in Sldapdata[].                                                                                     |
| 2E6 | SIBDAPID      | The dapid, which is used as an index into Sldapdata[], was passed to AIM                                                                                                                                     |

|     |                |                                                                                                                                                                                                                                                                                 |
|-----|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                | with an invalid value.                                                                                                                                                                                                                                                          |
| 2E7 | INBADPORT      | AIM was unable to get the process number of an operating system application. process which is critical to the system. AIM will request an D2/S6 (operating system level 2) AM initialization.                                                                                   |
| 2E8 | INFAULTFAIL    | AIM received a failure return when it tried to send a fault to an operating system application process. AIM will request a D2/S6 (operating system level 2) initialization.                                                                                                     |
| 2E9 | SIBOSTCODE     | AIM received an invalid OST.                                                                                                                                                                                                                                                    |
| 2EA | INNOTRIG       | Operating system returned a failure return code either from allocmsg() or queuem() when AIM was trying to send an initialization trigger message. AIM will request a D2/S6 (operating system level 2) initialization.                                                           |
| 2EB | SITMSGBUF      | AIM failed in getting an operating system message buffer to send the message to SIM to tell SIM to perform sanity timing on AIM. AIM will request an operating system level 1 initialization.                                                                                   |
| 2EC | SITMSGQUE      | AIM failed in queuing an operating system message buffer when sending the message to SIM to tell SIM to perform sanity timing on AIM. AIM will request an operating system level 1 initialization.                                                                              |
| 2ED | SITADDTSK      | AIM failed in setting up its internal timing used to time for SIM's acknowledgment of AIM's request for SIM to perform sanity timing of AIM. AIM will request an operating system level 1 initialization.                                                                       |
| 2EE | SITINITFAIL    | AIM received an indication from SIM that AIM's request for SIM to perform a sanity timer function on AIM has been denied. AIM will request an operating system level 1 initialization.                                                                                          |
| 2EF | SITADDRES      | AIM failed in setting up its internal timing used to satisfy SIM's sanity timing requirements on AIM. AIM will request an operating system level 1 initialization when this occurs.                                                                                             |
| 2F0 | SITPRMBUF      | AIM got a failure return from allocmsg() when it tried to get an operating system message buffer to send a message to SIM to print out a PRM.                                                                                                                                   |
| 2F1 | SITPRMQUE      | AIM got a failure return from queuem() when it tried to queue an operating system message buffer to send a message to SIM to print out a PRM.                                                                                                                                   |
| 2F2 | SITTSKACT      | AIM's task timer encountered an active task that was marked as being inactive.                                                                                                                                                                                                  |
| 2F3 | SITRESET       | AIM received a failure return when it tried to send its sanity event to SIM using the sendevent() primitive. AIM will perform an operating system level 1 initialization as a result of this assert.                                                                            |
| 2F4 | SITTSKTYP      | A task timer block has an invalid task number in the task field. AIM uses task timers for internal timing, and the task field specifies the job being timed. For debugging, one of the assert stack frame dumps contains the complete task timer block that was found in error. |
| 2F5 | SITINITTIMEOUT | AIM failed to receive an acknowledgment from SIM to its request to have SIM perform sanity timing on AIM. AIM will perform an operating system level 1 initialization as a result of this assert.                                                                               |
| 2F6 | SIINVREQINIT   | AIM received an invalid parameter from INREQINIT() macro.                                                                                                                                                                                                                       |
| 2F7 | SIDDWERR       | AIM received a failure return code from DDwrite() primitive.                                                                                                                                                                                                                    |
| 2F8 | INBSOURCE      | AIM encountered an invalid value in the "source" field of the initialization message received from SIM.                                                                                                                                                                         |
| 2FA | INBOTYPE       | AIM encountered an unrecognizable value in the ms_otype field of an incoming message.                                                                                                                                                                                           |
| 2FB | IMSOSDSMODE    | AIM activity check encountered an invalid OSDS mode in SMKP.                                                                                                                                                                                                                    |
| 2FC | IMSLOOPCNT     | AIM activity counter for SMKP had what seemed to be a wild written value in it.                                                                                                                                                                                                 |
| 2FD | INNOMSGBUF     | AIM could not get a message buffer from the operating system to send a message to CMKP to perform an open to a slot for OSDS communication.                                                                                                                                     |
| 2FE | INSNDFTLFAIL   | sendfault() failed to send FLT_SINIT (SIGTERM signal) to an operating system display administration process (DAP).                                                                                                                                                              |
| 2FF | INSNDEVTFAIL   | sendevent() failed to send E_ABORT event to a killable non-operating system DAP.                                                                                                                                                                                                |
| 300 | SIINVINIT      | An automatic operating system level 0 initialization occurred. Operating system level 0 should only occur when manually requested from the EAI. The message buffer for the system initialization message will be dumped                                                         |

|     |              |                                                                                                                                                                                                                                                                                     |
|-----|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |              | to the stack for the ASSERT printout.                                                                                                                                                                                                                                               |
| 301 | SIAPPLPARM   | Default case in switch on application parameter in function INsysmsg(). Indicates internal software insanity. The message buffer for the system initialization message will be dumped to the stack for the ASSERT printout.                                                         |
| 302 | SIINVMSG     | Invalid message in function Slinhmsg(). Message buffer is dumped to stack for ASSERT printout.                                                                                                                                                                                      |
| 303 | INECDFAIL    | AIM failed to attach to the equipment configuration database (ECD).                                                                                                                                                                                                                 |
| 304 | INCONFIGFAIL | AIM failed to open the CONFIG shared library.                                                                                                                                                                                                                                       |
| 305 | SIINVRET     | AIM received invalid return code from the Slcpside() primitive in the function Slaswcp().                                                                                                                                                                                           |
| 306 | SICONFIGFAIL | CONFIG library primitive failed during AM switch attempt.                                                                                                                                                                                                                           |
| 307 | SIUNCONDFAIL | Failure of unconditional switch of AM sides.                                                                                                                                                                                                                                        |
| 308 | SIINVOSTFAIL | Invalid parameter passed with Slswcp() OST primitive.                                                                                                                                                                                                                               |
| 309 | SITMRINACT   | The flag used for the Slholdtite() primitive was found to be set without a timer for it being active. The flag was cleared.                                                                                                                                                         |
| 30A | SITMROVFLOW  | The counter used for the Slholdtite() primitive was found to have an out of range value. The counter was zeroed.                                                                                                                                                                    |
| 30B | SIAMDWFIL    | AIM was unable to get the dapid of the AMDW process when it received a report message from the AMcptepls process in OKP.                                                                                                                                                            |
| 30C | INPMCOMFAIL  | AIM was unable to send a P_CREAT message to the PMGR.                                                                                                                                                                                                                               |
| 30D | SIALOCFAIL   | AIM was unable to allocate an operating system message buffer.                                                                                                                                                                                                                      |
| 30E | SIQMFIL      | AIM failed to queue an operating system message.                                                                                                                                                                                                                                    |
| 30F | INBADSEQST   | A sequence state was encountered by AIM which either is invalid or is not consistent with the data stored in Sldapdata[].                                                                                                                                                           |
| 310 | SIBADPARAM   | Illegal application parameter passed to function Slinh_admin().                                                                                                                                                                                                                     |
| 311 | SIOVRSTIMER  | The timer could not be allocated using Slatimer() to limit the duration for an operating system message overload condition. Without this timer, output message volume may be seriously limited.                                                                                     |
| 312 | SIFLOWERR    | An inconsistency was detected internal to a function.                                                                                                                                                                                                                               |
| 313 | SIBADTTY     | Invalid TTY message ID was received by AIM. Message buffer is dumped in ASSERT printout.                                                                                                                                                                                            |
| 314 | INTMTOUT     | A timeout occurred for AIM to kill a DAP using a message to the operating system scheduler. A operating system level 1 initialization will be requested.                                                                                                                            |
| 315 | INSYSMSGFAIL | AIM timed out waiting to receive the system initialization message from SIM. An operating system level 1 initialization will be requested.                                                                                                                                          |
| 316 | SINOTSKBLK   | There were no free task blocks to schedule a timer in AIM even after a demand audit. An internal AIM recovery and restart will be invoked.                                                                                                                                          |
| 317 | SISMKPFAIL   | AIM was unable to obtain SMKP's operating system process ID to send a message to SMARS to inhibit or allow hardware checks.                                                                                                                                                         |
| 318 | SIDBRDERR    | Indicates erroneous data in relation RLMODATT for a given SM. In function INactrl(), or in Slinh_admin(), an unsuccessful return from the DBfrdtup() primitive causes this assertion. If the "offset" value obtained from RLMODATT is out of range, an assertion will also be made. |
| 319 | SIDDRDERR    | Indicates erroneous DDREAD data in DDRSMISOL for a given HSM [refer to INactrl()/Slinh_admin()].                                                                                                                                                                                    |
| 31A | INFPTOUT     | Init forward progress timers timed-out.                                                                                                                                                                                                                                             |
| 3B5 | SIASTAUD     | Previous ASSERT caused an internal recovery and AIM restart.                                                                                                                                                                                                                        |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report the failure specified by the ASSERT code in variable z.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual (235-105-250).

**PRM:FExx-FF03****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF03 yyyy zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Failure of the process manager (PMGR) to create an essential process for AIM.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF03 = Switch application phase trigger (PMGR essential process creation failure).

y = Operating system application process utility identification (ID).

0017 = FIFO driver (FDA).

00C0 = Input/output driver kernel process (IODRV).



|      |                                                                                                                                                                                                                                                                                                                                                 |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 00C2 | = Scan and signal distributor administration (SCSD).                                                                                                                                                                                                                                                                                            |
| 0117 | = Plant measurement database monitor (PLDMON).                                                                                                                                                                                                                                                                                                  |
| 0186 | = Kernel lockout monitor kernel process (KLMON).                                                                                                                                                                                                                                                                                                |
| 0410 | = Switch maintenance kernel process (SMKP).                                                                                                                                                                                                                                                                                                     |
| 0420 | = Communications kernel process (CMKP).                                                                                                                                                                                                                                                                                                         |
| 0430 | = Message switch kernel process (MSKP).                                                                                                                                                                                                                                                                                                         |
| 0455 | = Recent change kernel process (RCKP).                                                                                                                                                                                                                                                                                                          |
| 0460 | = Operational kernel process (OKP).                                                                                                                                                                                                                                                                                                             |
| 047A | = CNl ring monitor kernel process (RINGMON).                                                                                                                                                                                                                                                                                                    |
| 04E4 | = Common network interface initialization kernel process (CNIINIT).                                                                                                                                                                                                                                                                             |
| z    | = PMGR failure code. Refer to "UNIX® RTR PMGR error codes" in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual or convert from hexadecimal to decimal and consult the REPT:PMGR output message in the Output Messages manual, 235-600-750, for an explanation. If z = 000A, AIM is timed out waiting for a PMGR response. |
| h    | = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.                                                                                                                                                                                           |

## 5. EXPLANATION

AIM prints this PRM to report that it was unable to create an essential process.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery, go into the operating system minimum configuration. Using the process manager error code and the process identity, check that the disk files necessary for process creation are in their correct directory locations and contain the correct header information.

If this fails to correct the problem, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF05****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF05 xxxx yyzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

AIM essential operating system application process initialization failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF05 = Switch application phase trigger (essential process initialization failure).

x = Operating system application process utility identification (ID). Valid values are:

0017 = FIFO driver (FDA).

00C0 = Input/output driver kernel process (IODRV).

|      |                                                      |
|------|------------------------------------------------------|
| 00C2 | = Scan and signal distributor administration (SCSD). |
| 0117 | = Plant measurement database monitor (PLDMON).       |
| 0186 | = Kernel lockout monitor kernel process (KLMON).     |
| 0410 | = Switch maintenance kernel process (SMKP).          |
| 0420 | = Communications kernel process (CMKP).              |
| 0430 | = Message switch kernel process (MSKP).              |
| 0455 | = Recent change kernel process (RCKP).               |
| 0460 | = Operational kernel process (OKP).                  |
| 047A | = CNI ring monitor kernel process (RINGMON).         |
| 04E4 | = CNI initialization kernel process (CNIINIT).       |

y = Failed process sequence state. Valid values are:

|    |                                      |
|----|--------------------------------------|
| 00 | = Created (booted from disk).        |
| 01 | = Software initialization.           |
| 02 | = Hardware initialization.           |
| 03 | = Communication link initialization. |
| 04 | = Enable fault recovery.             |
| 05 | = Essential jobs operational.        |
| 06 | = Fully operational.                 |
| 07 | = Aborting.                          |

z = Success/failure indication. Valid values are:

|    |                                |
|----|--------------------------------|
| 01 | = Initialization step failed.  |
| 02 | = Initialization step timeout. |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

An essential application process has failed to initialize successfully by either calling INcomplete() indicating a failure or by timing out.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no

initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF06****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF06 xxxx yyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

AIM essential operating system application process initialization timeout.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

x = Operating system application process utility identification (ID). Valid values are:

0017 = FIFO driver (FDA).

00C0 = Input/output driver kernel process (IODRV).

00C2 = Scan and signal distributor administration (SCSD).

|      |                                                  |
|------|--------------------------------------------------|
| 0117 | = Plant measurement database monitor (PLDMON).   |
| 0186 | = Kernel lockout monitor kernel process (KLMON). |
| 0410 | = Switch maintenance kernel process (SMKP).      |
| 0420 | = Communications kernel process (CMKP).          |
| 0430 | = Message switch kernel process (MSKP).          |
| 0455 | = Recent change kernel process (RCKP).           |
| 0460 | = Operational kernel process (OKP).              |
| 047A | = CNI ring monitor kernel process (RINGMON).     |
| 04E4 | = CNI initialization kernel process (CNIINIT).   |

y = Failed process sequence state. Valid values are:

|    |                                      |
|----|--------------------------------------|
| 00 | = Created (booted from disk).        |
| 01 | = Software initialization.           |
| 02 | = Hardware initialization.           |
| 03 | = Communication link initialization. |
| 04 | = Enable fault recovery.             |
| 05 | = Essential jobs operational.        |
| 06 | = Fully operational.                 |
| 07 | = Aborting.                          |

z = Process run state. Valid values are:

|    |                                                     |
|----|-----------------------------------------------------|
| 00 | = Process was still performing initialization step. |
| 01 | = Process had completed initialization step.        |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that initialization of an essential process failed to complete within the allotted time.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF07****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF07 0000 0000 hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Switch maintenance kernel process (SMKP) initialization progress timeout.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. An AM-wide initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF07 = Switch application phase trigger (SMKP initialization progress timeout).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**



AIM prints this PRM when an SMKP initialization progress timeout occurs. SMKP did not send a progress PRM to AIM within ten seconds.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an AM-wide D1 initialization. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF08****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF08 0000 0000 hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Operational kernel process (OKP) initialization progress timeout.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. An AM-wide initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF08 = Switch application phase trigger (OKP initialization progress timeout).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM when an OKP initialization progress timeout occurs. OKP did not send a progress PRM to AIM within ten seconds.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an AM-wide D1 initialization. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF09****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF09 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Switch maintenance kernel process (SMKP) detected lack of initialization progress.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. An AM-wide initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF09 = Switch application phase trigger (SMKP detected lack of initialization progress).

z = Value of SMKP's recovery counter (IMsrcvycnt).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report an SMKP-detected lack of initialization forward progress.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an AM-wide D1 initialization. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF0A****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF0A 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Operational kernel process (OKP) detected lack of initialization progress.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. An AM-wide initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF0A = Switch application phase trigger (OKP detected lack of initialization progress).

z = Value of OKP's recovery counter (IMrcvycnt).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report an OKP-detected lack of initialization forward progress.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an AM-wide D1 initialization. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF0D****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF0D yyyz zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

AIM detected a lack of activity in a kernel process during normal operation of the administrative module (AM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF0D = AIM is taking recovery from kernel level lockout.

y = Utility ID of failing process. If the utility ID is zero variable z will indicate that the fault was from system integrity monitor (SIM) or an expired recovery timer.

z = 20 low order bits of address of failing process in hexadecimal except for the following. Valid values are:



|      |                                                                                     |
|------|-------------------------------------------------------------------------------------|
| FFFD | = The fault threshold was exceeded and no processes were successfully faulted.      |
| FFFE | = The fault was from SIM overload control, not from lockout detection and recovery. |
| FFFF | = The fault resulted from an expired lockout recovery timer.                        |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM when it takes action on kernel process lockout at one of several priority levels. That is, no kernel process which executes at that level or below has had access to the central processing unit (CPU) for some time. Also refer to the description of PRM:EExx-68xx.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a single-process purge (SPP) or full process initialization (FPI). If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no high-level initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF0E****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF0E 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected lack of communications to all switching modules (SMs) during normal operation of the administrative module (AM).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF0E = Switch application phase trigger (lack of communications to all SMs).

z = Number of 5-second intervals between the detection of all communication links down and the requesting of the AM initialization.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that OKP IM has detected a loss of communication to all SMs.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

This situation may be a symptom of duplex failure of the message switch (MSGs) or the office network and timing complexes (ONTC).

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF0F****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF0F 0000 0000 hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected an excessive number of E-bit continuity failures.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF0F = Switch application phase trigger (excessive E-bit continuity failures).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM just before requesting an AM phase due to an OKP IM-detected excessive E-bit continuity failures. If the HW/SW inhibits are off, this PRM will be followed immediately by a high-level AM initialization. If the inhibits are on, no initialization will occur; however, the system will not have essential functionality.

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF10****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF10 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) message control blocks (MCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF10 = Switch application phase trigger (SMKP MCB exhaustion).

z = Elapsed time in milliseconds during which no MCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that SMKP IM has detected OSDS MCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF11****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF11 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) timing control blocks (TCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF11 = Switch application phase trigger (SMKP TCB exhaustion).

h = Elapsed time in milliseconds during which no TCBs were available and none could be recovered.

z = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## 5. EXPLANATION

AIM prints this PRM to report that SMKP IM has detected OSDS TCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF12****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF12 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity Monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) message control blocks (MCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF12 = Switch application phase trigger (OKP MCB exhaustion).

h = Elapsed time in milliseconds during which no MCBs were available and none could be recovered.

z = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report that OKP IM has detected OSDS MCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF13****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF13 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) timing control blocks (TCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF13 = Switch application phase trigger (OKP TCB exhaustion).

z = Elapsed time in milliseconds during which no TCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report that OKP IM has detected OSDS TCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF14****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF14 xxyy zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The system integrity control (SICO) operating system for distributed switching (OSDS) process within the operational kernel process (OKP) has allowed software escalation of OKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF14 = Switch application phase trigger (OKP SICO software escalation).

x = Cause of the software escalation. Valid values are:

0A = Asserts.

0F = Operating system fault.

y = OSDS operational mode (IMOSDSMODE). Valid values are:

01 = Init not yet begun.

02 = Normal mode.

03 = OSDS post recovery.

04 = SICO directed recovery.

05 = Safe interval.

z = Valid values are:

| If "x" = | "z" =                                                           |
|----------|-----------------------------------------------------------------|
| 0A       | The assert code (in hexadecimal) that triggered the escalation. |
| 0F       | The operating system fault code.                                |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that the SICO process has allowed OKP software escalation.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a full process initialization (FPI). If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

Look up the appropriate assert code or operating system fault code to determine what, if any, action should be taken. Assert codes can be found in the Asserts Manual, 235-600-500. Operating system fault codes can be found in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual, "UNIX® RTR Operating System Error Codes".

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF15****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF15 xxyy zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The switch maintenance system integrity control (SMICO) operating system for distributed switching (OSDS) process within the switch maintenance kernel process (SMKP) has allowed software escalation of SMKP.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF15 = Switch application phase trigger (SMKP SMICO software escalation).

x = Cause of the software escalation. Valid values are:

0A = Asserts.



0E = Full process initialization (FPI) failure.

0F = Operating system fault.

y = OSDS operational mode (IMOSDSMODE). Valid values are:

01 = Init not yet begun.

02 = Normal mode.

03 = OSDS post recovery.

04 = SMICO directed recovery.

05 = Safe interval.

z = Valid values are:

| If "x" = | "z" =                                                                        |
|----------|------------------------------------------------------------------------------|
| 0A       | The assert code (in hexadecimal) that triggered the escalation.              |
| 0E       | <p>0000 = SMininit_data() failed.</p> <p>0001 = AUSiec() recorded error.</p> |
| 0F       | Operating system fault code.                                                 |

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that the SMICO process has allowed SMKP software escalation.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

Look up the appropriate assert code or operating system fault code to determine what, if any, action should be taken. Assert codes can be found in the Asserts Manual, 235-600-500. Operating system fault codes can be found in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual, "UNIX® RTR Operating System Error Codes".

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF16****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF16 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Switch maintenance kernel process (SMKP) abort counter overflow.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF16 = Switch application phase trigger (SMKP abort counter overflow).

z = Abort counter value at the time of the overflow.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report an SMKP abort counter overflow.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF17****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF17 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

OSSENDMSG() failed during an administrative module (AM) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF17 = Switch application phase trigger [OSSENDMSG() failure during SMKP initialization].

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The operating system for distributed switching (OSDS) primitive OSSENDMSG() returned a failure indication when called in the switch maintenance kernel process (SMKP) during an AM initialization. The initialization cannot complete successfully.

If AM software checks are allowed, AIM will immediately trigger a new AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF18****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF18 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase Trigger.

**3. FUNCTION**

OSTIMER() failed during an administrative module (AM) initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF18 = Switch application phase trigger [OSTIMER() failure during SMKP initialization].

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

The operating system for distributed switching (OSDS) primitive OSTIMER() returned a failure indication when called in the switch maintenance kernel process (SMKP) during an AM initialization. The initialization cannot complete successfully.

If AM software checks are allowed, AIM will immediately trigger a new AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF19****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF19 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The switch maintenance system integrity control (SMICO) operating system for distributed switching (OSDS) process within the switch maintenance kernel process (SMKP) monitor fault recovery (FR) activity counter overflowed.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF19 = Switch application phase trigger (SMKP SMICO FR activity monitor counter overflow).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.



## 5. EXPLANATION

AIM prints this PRM to report an overflow of the fault recovery activity counter maintained by the SMICO process in SMKP.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

Try manually inhibiting communication module hardware checks. Try forcing different combinations of message switch (MSGs) and office network and timing complex (ONTc).

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF1A****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF1A 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Directed audit exceeded time limit.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF1A = Switch application phase trigger (directed audit exceeded time limit).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

A directed audit is run in an operating system for distributed switching (OSDS) environment [that is, the switch maintenance kernel process (SMKP) or operational kernel process (OKP)] to correct an error in a critical data structure (for example, an idle link list). Such an audit was run and it exceeded the timeout interval.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF1B****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF1B wwww xyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Essential operating system application process full process initialization (FPI) timeout.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF1B = Switch application phase trigger (essential process FPI timeout).

w = Operating system application process utility ID. Valid values are:

0017 = FIFO driver (FDA).

00C0 = Input/output driver (IODRV).

|      |                                                      |
|------|------------------------------------------------------|
| 00C2 | = Scan and signal distributor administration (SCSD). |
| 0117 | = Plant measurement database monitor (PLDMON).       |
| 0186 | = Kernel level overload monitor (KLMON).             |
| 0410 | = Switch maintenance kernel process (SMKP).          |
| 0420 | = Communications kernel process (CMKP).              |
| 0430 | = Message switch kernel process (MSKP).              |
| 0455 | = Recent change kernel process (RCKP).               |
| 0460 | = Operational kernel process (OKP).                  |
| 047A | = Ring monitor (RINGMON).                            |
| 04E4 | = Common network interface initialization (CNIINIT). |

x = Failed process sequence state. Valid values are:

|   |                                      |
|---|--------------------------------------|
| 0 | = Created (booted from disk).        |
| 1 | = Software initialization.           |
| 2 | = Hardware initialization.           |
| 3 | = Communication link initialization. |
| 4 | = Enable fault recovery.             |
| 5 | = Essential jobs operational.        |
| 6 | = Fully operational.                 |
| 7 | = Aborting.                          |

y = Run state. Valid values are:

|   |              |
|---|--------------|
| 0 | = Running.   |
| 1 | = Step done. |

z = Error code. Valid values are:

|    |                           |
|----|---------------------------|
| 21 | = Initialization timeout. |
|----|---------------------------|

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that it was unable to successfully complete an essential process FPI. The FPI, also known as an "S5" initialization, failed because of a timeout.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF1C****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF1C 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Automatic escalation of an operating system D1 initialization (that is, 51) to a high-level initialization.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF1C = Switch application phase trigger (automatic escalation of D1 to high-level initialization).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM just before escalating an operating system D1 initialization to a high-level initialization (S6 or S7). This happens when a D1 interrupts a high-level initialization before it has completed its critical work.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.



**PRM:FExx-FF1F****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF1F wwww xyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Operating system application process full process initialization (FPI) request.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF1F = Switch application phase trigger (FPI request).

w = Operating system application process utility ID. Valid values are:

0017 = FIFO driver kernel process (FDA).

00C0 = Input/output driver kernel process (IODRV).

|      |                                                                            |
|------|----------------------------------------------------------------------------|
| 00C2 | = Scan and signal distributor administration (SCSD).                       |
| 0117 | = Plant measurement database monitor (PLDMON).                             |
| 0186 | = Kernel level overload monitor (KLMON).                                   |
| 0188 | = Operating system supervisor overload monitor process (SUOVPRC).          |
| 0406 | = Process for loading office dependent data [ODD] onto disk (PLOD).        |
| 0407 | = Attached Processor data link (APDL).                                     |
| 0410 | = Switch maintenance kernel process (SMKP).                                |
| 0411 | = Switch maintenance power switch monitor (SMPSM).                         |
| 0420 | = Communications kernel process (CMKP).                                    |
| 0430 | = Message switch kernel process (MSKP).                                    |
| 0450 | = Pump control (PUCR).                                                     |
| 0451 | = Automatic message accounting disk writer kernel process (AMDW).          |
| 0460 | = Operational kernel process (OKP).                                        |
| 047A | = Ring monitor kernel process (RINGMON).                                   |
| 04E4 | = Common network interface initialization kernel process (CNIINIT).        |
| 0590 | = Process for loading ODD into protected application segment (PAS) (PLOP). |
| 0710 | = Switch Maintenance Diagnostic Input Message Processor (SMDIMP).          |
| 07DD | = Automatic message accounting disk writer 1 kernel process (AMDW1).       |
| 07CE | = Automatic message accounting disk writer 2 kernel process (AMDW2).       |

x = Failed process sequence state. Valid values are:

|   |                                      |
|---|--------------------------------------|
| 0 | = Created (booted from disk).        |
| 1 | = Software initialization.           |
| 2 | = Hardware initialization.           |
| 3 | = Communication link initialization. |
| 4 | = Enable fault recovery.             |
| 5 | = Essential jobs operational.        |
| 6 | = Fully operational.                 |
| 7 | = Aborting.                          |

y = Run state. Valid values are:

- 0 = Running.
- 1 = Step done.

z = Error code. Valid values are:

- 20 = INcomplete() failure or timeout (S5 or lower).
- 22 = A manual request was made using the INIT:AM-FPI input message. Refer to the Input Messages manual, 235-600-700.
- 23 = Process manager (PMGR) death of child message received.
- 24 = FPI re-try requested on process that failed during AM initialization.
- 25 = Abort threshold exceeded, attempt to restart common channel signaling (CCS) in 15 minutes.
- 26 = CM-only init failure.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report a request to perform a FPI on the specified operating system application process. This level of initialization is also known as an "S5" initialization.

If the FPI was not manually requested, AIM may select a more severe recovery action based on the state of the system and the extent of previous recovery attempts. If the number of attempted FPIs exceeds a threshold and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF20****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF20 yyyy zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Failure to load office-dependent data (ODD) into the protected application segment (PAS) of administrative module (AM) main memory. AIM uses the process manager (PMGR) to create the operating system application kernel process for loading ODD into PAS (PLOP) to perform this function.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF20 = Switch application phase trigger (PLOP failure to load ODD).

y = Valid values are:

0001 = No message buffers available for PMGR message to create PLOP.

|      |                                                                                                                                                                                                                                          |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0002 | = AIM failed to queue PLOP P_CREAT message to the PMGR.                                                                                                                                                                                  |
| 0003 | = PMGR failed with error code (variable <i>z</i> ) to create PLOP.                                                                                                                                                                       |
| 0004 | = PLOP died before completing the loading of ODD into PAS.                                                                                                                                                                               |
| 0101 | = PLOP was faulted with fault code <i>z</i> .                                                                                                                                                                                            |
| 0102 | = PLOP failed to get a valid capability number from the FMGR (error code <i>z</i> ) while trying to open the ODD file.                                                                                                                   |
| 0103 | = PLOP was unable to find a memory segment <i>z</i> within its address space. This problem is most commonly caused by the upper PAS being too small to fit the ODD; PAS size is specified in the equipment configuration database (ECD). |
| 0104 | = PLOP failed while trying to read the ODD file.                                                                                                                                                                                         |
| 0105 | = ODD file magic number <i>z</i> is invalid.                                                                                                                                                                                             |
| 0106 | = The size of the ODD exceeds the maximum PAS ODD size.                                                                                                                                                                                  |
| 0107 | = ODD section name in the ODD file is invalid.                                                                                                                                                                                           |
| 0108 | = The virtual starting address <i>z</i> of the ODD section in the ODD file does not match the starting address for ODD in PAS.                                                                                                           |
| 0109 | = PLOP encountered an internal error where the starting address for a read from disk was not on a word boundary.                                                                                                                         |
| 0110 | = Bad number of bytes for reading (not a multiple of 64).                                                                                                                                                                                |
| 0111 | = PLOP failed to lock a segment into memory.                                                                                                                                                                                             |
| 0112 | = Size of acknowledgment message received is different than expected.                                                                                                                                                                    |
| 0113 | = Move blocks of memory (MVB) failed.                                                                                                                                                                                                    |
| 0114 | = PLOP internal error (invalid state).                                                                                                                                                                                                   |
| 0115 | = PLOP took longer than 20 seconds to reload the ODD.                                                                                                                                                                                    |

*z* = Valid values are:

| If " <i>w</i> " = | " <i>z</i> " =                                                                                                                           |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 0003              | PMGR error code. Refer to "UNIX® RTR PMGR error codes" in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual.        |
| 0101              | Operating system fault code. Refer to "UNIX® RTR fault codes" in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual. |
| 0102, 0104        | FMGR error code. Refer to "UNIX® RTR FMGR error codes" in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual.        |
| 0103, 0108        | Virtual address segment index.                                                                                                           |
| 0105              | ODD file magic number.                                                                                                                   |
| 0111              | State of the segment.                                                                                                                    |

*h* = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report a failure to load ODD into PAS.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

Look up the appropriate PMGR error code, *UNIX*® RTR fault code, or FMGR error code (if specified) in the APP:RTR-ERROR appendix in the Appendixes section of the PRM manual. Check that the PLOP process pfile and the ODD (/no5odd/cpdata/cpodd.out) files are in their correct disk directory locations and that they have the correct header information in them.

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF21****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF21 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Failure to get AIM's process number from portid.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF21 = Switch application phase trigger (AIM port to process number failure).

z = Utility ID of AIM's process (it should be 0400).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report a failure to get AIM's process number from the portid (PT\_AIM = 15).

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.



**PRM:FExx-FF22****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF22 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Lack of integrity monitor (IM) activity in the switch maintenance kernel process (SMKP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF22 = Switch application phase trigger (lack of SMKP IM activity).

z = ID of integrity monitor activity that failed (IMismchk).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report a lack of integrity monitor activity in SMKP.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt an FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF23****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF23 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Lack of integrity monitor (IM) activity in the operational kernel process (OKP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF23 = Switch application phase trigger (lack of OKP IM activity).

z = ID of integrity monitor activity that failed (IMimcpchk).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report a lack of integrity monitor activity in OKP.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF24****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF24 0000 zzzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Lack of call processing activity in the operational kernel process (OKP).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF24 = Switch application phase trigger (lack of OKP call processing activity).

z = Number of 5-second intervals for which call processing was locked out.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report a lack of call processing activity in OKP.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF25****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF25 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) process control blocks (PCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF25 = Switch application phase trigger (SMKP PCB exhaustion).

z = Elapsed time in milliseconds during which no PCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report that SMKP IM has detected OSDS PCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.



**PRM:FExx-FF26****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF26 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) process control blocks (PCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF26 = Switch application phase trigger (OKP PCB exhaustion).

z = Elapsed time in milliseconds during which no PCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report that OKP IM has detected OSDS PCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF27****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF27 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the switch maintenance kernel process (SMKP) has detected an exhaustion of operating system for distributed switching (OSDS) stack control blocks (SCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF27 = Switch application phase trigger (SMKP SCB exhaustion).

z = Elapsed time in milliseconds during which no SCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report that SMKP IM has detected OSDS SCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF28****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF28 0000 zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

The integrity monitor (IM) process within the operational kernel process (OKP) has detected an exhaustion of operating system for distributed switching (OSDS) stack control blocks (SCBs).

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF28 = Switch application phase trigger (OKP SCB exhaustion).

z = Elapsed time in milliseconds during which no SCBs were available and none could be recovered.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report that OKP IM has detected OSDS SCB resource exhaustion.

AIM will select a recovery action based on the severity of the problem, the state of the system, and the extent of previous recovery attempts. Initially, AIM will attempt a FPI. If the problem persists (recovery thresholds are exceeded), and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF2D****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF2D wwww xyzz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Common network interface (CNI) ring initialization request phase trigger.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed and the FPI threshold has been exceeded. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF2D = Switch application phase trigger (CNI initialization request).

w = Operating system application process utility ID.

047A = Ring monitor kernel process (RINGMON).

04E4 = Common network interface initialization (CNIINIT) kernel process.

x = Process sequence state. Valid values are:

- 0 = Created (booted from disk.)
- 1 = Software initialization.
- 2 = Hardware initialization.
- 3 = Communication link initialization.
- 4 = Enable fault recovery.
- 5 = Essential jobs operational.
- 6 = Fully operational.
- 7 = Aborting.

y = Run state. Valid values are:

- 0 = Running.
- 1 = Step done.

z = Error code. Valid values are:

- 01 = CNIINIT abort request using an operating system event.
- 02 = RINGMON abort request using an operating system trap (OST).
- 03 = CNIINIT too much progress (process must be crazy).
- 04 = *UNIX*® RTR Operating System primitive sendevent() failed to RINGMON.
- 05 = RINGMON death of child message received.
- 06 = RINGMON initialization request using CCreqinit() OST primitive.
- 07 = Manual C1-C4 initialization request using the INIT:CNI input message. Refer to the Input Messages manual, 235-600-700, for more information.
- 08 = Manual 42!L!50 or 42!L!51 requested to enter CNI minimum mode (MIN MODE) using a C4.
- 09 = Manual 42!N!50 or 42!N!51 requested to exit CNI minimum mode (MIN MODE) using a C4.
- 10 = Process manager (PMGR) death of child message received for a CCS process.
- 11 = Unsolicited CNIINIT begin full process initialization request.
- 12 = CNIINIT critical initialization failure using an operating system event.
- 13 = Unsolicited CNIINIT begin C1 request.



20 = INcomplete() S5 initialization failure or timeout using INdapinit().

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report a request (manual or automatic) to perform an initialization of CNIINIT and/or RINGMON at a specified CNI initialization level. If the FPI threshold is exceeded on an automatic request, and AM software checks are allowed, AIM will trigger a high-level AM initialization. If software checks are inhibited, no high-level initialization will occur, but the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF80****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF80 0000 000z hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Switch maintenance kernel process (SMKP) peripheral configuration data (PCD) inconsistency.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF80 = Switch application phase trigger (SMKP PCD inconsistency).

z = Reason for AM initialization failure. Valid values are:

1 = Office network and timing complex (ONTC) database problem.

2 = Failure to initialize simplex in-service ONTC.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

The status of all communication module (CM) hardware is stored in the PCD. This PRM reports that SMKP was unable to determine the active major ONTC (based on the PCD) prior to performing a CM initialization. This problem can be caused by catastrophic hardware problems or loss of power in the AM and CM. A hardware level escalation to H4 is required to resolve the problem.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF81****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF81 0000 0000 hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Switch maintenance kernel process (SMKP) peripheral configuration data (PCD) initialization was unable to obtain essential information from the office-dependent data (ODD) in the protected application segment (PAS) in administrative module (AM) main memory.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF81 = Switch application phase trigger (SMKP ODD access failure or inconsistency).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## 5. EXPLANATION

AIM prints this PRM to report an ODD problem detected during initialization of the PCD in SMKP. The status of all communication module (CM) hardware is stored in the PCD. The following problems will generate this PRM:

- (1) SMKP cannot read the RLSPC, RLSCORE, RLSNCREF, or RLNLNKTMS relation.
- (2) The RLSPC relation contains no equipped module message processor (MMP) or communication module processor (CMP).
- (3) The RLNLNKTMS relation contains no equipped network control and timing (NCT) links.
- (4) The Glcm0vint or Glcm1vint global parameter contains an invalid CM vintage value.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## 6. CORRECTIVE ACTION

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF82****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF82 0000 0000 hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Time multiplex switch (TMS) fault recovery duplex failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF82 = Switch application phase trigger (TMS duplex failure).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM to report a TMS fault recovery duplex failure. The duplex failure may be due to either a hardware or power problem.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF83****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF83 0000 0000 hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Foundation peripheral controller (FPC) fault recovery duplex failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF83 = Switch application phase trigger (FPC duplex failure).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**



AIM prints this PRM to report a FPC fault recovery duplex failure. The duplex failure may be due to either a hardware or power problem.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF84****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF84 0000 0000 hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Message switch control unit (MSCU) fault recovery duplex failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF84 = Switch Application phase trigger (MSCU duplex failure).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM to report a MSCU fault recovery duplex failure. The duplex failure may be due to either a hardware or power problem.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF87****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>d</sub>a FF87 0000 0000 hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Communication module processor (CMP) fault recovery duplex failure.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF87 = Switch application phase trigger (CMP duplex failure).

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

**5. EXPLANATION**

AIM prints this PRM to report a CMP fault recovery duplex failure. The duplex failure may be due to either a hardware or power problem.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FExx-FF88****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**

PRM\_p FEda FF88 sstu wxyz hh hh hh

**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

AIM report of a switch maintenance kernel process (SMKP) initialization failure, probably caused by communication module (CM) hardware or related software.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF88 = Switch application phase trigger (SMKP initialization failure).

s = Failed SMKP sequence state. Valid values are:

00 = Created (booted from disk).

01 = Software initialization.

- 02 = Hardware initialization.
- 03 = Communication link initialization.
- 04 = Enable fault recovery.
- 05 = Essential jobs operational.
- 06 = Fully operational.

t = Initialization step failure code. Valid values are:

- 1 = SMKP acknowledged failure.
- 2 = AIM timed out on SMKP completion.

u = Quad link packet switch gateway processor (QGP) and communication module processor (CMP) results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                              |
|-----|-------|------------------------------------------|
| 3   | 1     | At least one QGP on side 1 is available. |
|     | 0     | No QGPs on side 1 are available.         |
| 2   | 1     | At least one QGP on side 0 is available. |
|     | 0     | No QGPs on side 0 are available.         |
| 1   | 1     | CMP side 1 is available.                 |
|     | 0     | CMP side 1 not available.                |
| 0   | 1     | CMP side 0 is available.                 |
|     | 0     | CMP side 0 not available.                |

w = Message switch (MSGS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit | Value | Description                                               |
|-----|-------|-----------------------------------------------------------|
| 3   | 1     | At least one module message processor (MMP) is available. |
|     | 0     | No MMPs are available.                                    |
| 2   | 1     | The pump peripheral controller (PPC) is available.        |
|     | 0     | The PPC is not available.                                 |
| 1   | 1     | The foundation peripheral controller (FPC) is available.  |
|     | 0     | The FPC is not available.                                 |
| 0   | 1     | The message switch control unit (MSCU) is available.      |
|     | 0     | The MSCU is not available.                                |

x = MSGS side 1 results. Same options as variable w.

y = Office network and timing complex (ONTC) and quad link packet switch (QLPS) side 0 results. Bits numbered right to left 3-2-1-0. Valid values are:

| Bit     | Value | Description                      |
|---------|-------|----------------------------------|
| 3       | 1     | QLPS network 1 is available.     |
|         | 0     | QLPS network 1 is not available. |
| 2       | 1     | QLPS network 0 is available.     |
|         | 0     | QLPS network 0 is not available. |
| 1 and 0 | 1     | ONTC is available.               |
|         | 0     | ONTC is not available.           |

z = ONTC side 1 results. Same options as variable y.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definition of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report an SMKP initialization failure. The most likely cause is a duplex failure of CM hardware, possibly due to a power problem. This PRM reports the status of the different CM hardware units, to help determine if there is any bad hardware.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.



**PRM:FExx-FF99****Software Release:** 5E10 and later**Application:** 5E**Type:** Output**1. PRM FORMAT**PRM\_p FE<sub>da</sub> FF99 zzzz zzzz hh hh hh**2. PRM SOURCE**

Application integrity monitor (AIM) phase trigger.

**3. FUNCTION**

Excessive software errors in the message switch kernel process (MSKP).

**4. PRM EXPANSION**

p = Active CU. Valid values are:

0 = CU 0.

1 = CU 1.

F = AM software checks are allowed. A high-level AM initialization will follow immediately.

E = Application software generated this PRM.

d = Level of most recent operating system initialization. Valid values are:

0 = No initialization or D0 initialization.

1 = D1 initialization.

2 = D2 initialization.

3 = D3 initialization.

4 = D4 initialization.

These initializations are explained in the System Recovery Manual, 235-105-250.

a = Application initialization level within the operating system initialization specified in variable d.

FF99 = Switch application phase trigger (excessive MSKP software errors).

z = Failing address in MSKP.

h = Hardware status digits. Refer to Figures 2-1 through 2-8 in the Hardware Status Digits section of the User Guidelines for definitions of the digits.

## **5. EXPLANATION**

AIM prints this PRM to report that an excessive number of software errors have occurred in MSKP.

If AM software checks are allowed, AIM will immediately trigger a high-level AM initialization. Otherwise, no initialization will occur. However, the system may not support essential functionality (such as call processing, maintenance, or input/output).

## **6. CORRECTIVE ACTION**

If several minutes elapse without recovery or escalation to higher levels of initialization, refer to the procedure entitled "Analyze Administrative Module (AM) Initialization Failure" in the System Recovery Manual, 235-105-250.

**PRM:FFFF-FFFF****Software Release:** 5E10 and later**Application:** RTR**Type:** Output**1. PRM FORMAT**

PRM\_p FFFF FFFF FFFF FFFF hh hh hh

**2. PRM SOURCE**

3B20D central control (CC) diagnostic phases 61 and 93, or 3B21D CC diagnostic phases 64 and 65.

**3. FUNCTION**

Diagnostic test.

**4. PRM EXPANSION**

p = Active control unit (CU). Valid values are:

0 = CU 0.

1 = CU 1.

h = Any hexadecimal number.

**5. EXPLANATION**

The off-line processor produces PRMs during CC diagnostics (regular phase 61 and demand phase 93). This PRM is one in a sequence of PRMs output during the CC diagnostic. More detailed information about these PRMs is given in Corrective Maintenance Procedures, 235-105-220.

**6. CORRECTIVE ACTION**

None. This is not a problem condition. Disregard this PRM.

**NOTE:** Also disregard the one or two PRMs preceding this pattern if they have a D or F in position 15.

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