DMS–100 Family

Software Delivery

One Night Process Software Delivery Procedures

Base07   Standard 13.03 May 4, 2001

- *Supports up to CSP15 (Base16)*
- *"Global" procedures (generic for all markets)*
- *DMS –100, -200, -250, -300, -500, GSM, MTX, SL100, GL100*

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DMS-100 Family

Software Delivery ONP Procedures

Publication history

May 4, 2001

297-8991-303 *One Night Process Software Delivery Procedures*
Standard Release 13.03 for ONP upgrades from CSP06/Base07 PCLs and
above to CSP06/Base07 and above, up to and including CSP15/Base16 (for
example, NA015).
- revised section "Site preparation overview" to update SDM references.
- minor revisions to AutoONP procedures.

March 14, 2001

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Prelimiary Release 13.02 for ONP upgrades from CSP06/Base07 PCLs and
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- revised PRESWACT Abort procedure in Appendix A.
- minor revisions to AutoONP and CMMOCK procedures.
- revised XA-Core Release Upgrade procedure in Appendix D.

February 14, 2001

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- moved AutoONP section "CI command descriptions" into Appendix A
  incorporating this information into section "SWUPGRADE summary."
- added ONPREADY command to section "SWUPGRADE READY."
- revised sections TABAUDIT, Site Preparation Overview, and Site
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September 18, 2000

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- additional revisions/corrections made to "XA-Core Release Upgrade
  procedures" in Appendix D.

September 7, 2000

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 12.02 for ONP upgrades from CSP06/Base07 PCLs
and above to CSP06/Base07 and above, up to and including CSP14/Base15
(for example, NA014). Limited release for VO program only.
- revised "About this document" section to include references to IM's for
  the XA-Core Release Upgrade procedure.
- revised "XA-Core Release Upgrade procedures" in Appendix D to
  include references to IM 65-6174 and IM 78-6175.

July 28, 2000

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 12.01 for ONP upgrades from CSP06/Base07 PCLs
and above to CSP06/Base07 and above, up to and including CSP14/Base15
(for example, NA014).
- changed "to Base03" references to "from CSP06/Base07" to reflect the
  fact that this document is now only applicable for upgrades from CSP06
  and higher using the AutoONP method.
- updated the Site Preparation sections to include XA-Core.
- removed the "AutoONP MOP Checklist" section.
- renamed "Updating loads in the Message Switch" section to "Restore
  CM and MS load files" and included XA-Core procedures.
- updated "AutoONP Procedure" section to include the XA-Core
  AutoONP procedure.
- updated "Revert and Abort Procedures."
- removed "Active terminal session" and "Trace device output" sections.
- removed manual ONP method (BCSUPDATE) procedures.
- removed "BCSUPDATE step description" sections from Appendix A.
- added "PRESWACT DIRP and billing" procedures and "Recover DIRP
  and billing" to Appendix B and included references in AutoONP.
- added "XA-Core Release Upgrade procedures" as Appendix D.
- revised "CMMOCK Procedures" in Appendix E to include XA-Core.
- archived Volume 2 (XA-Core).

April 28, 2000

297-8991-303 *One Night Process Software Delivery Procedures*
Standard Release 11.03 for ONP to Base03 PCLs and above, up to and
including CSP13/Base14 (for example, NA013).

February 18, 2000

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 11.02 for ONP to Base03 PCLs and above, up to and
including CSP13/Base14 (for example, NA013).

December 20, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 11.01 for ONP to Base03 PCLs and above, up to and
including CSP13/Base14 (for example, NA013).

November 9, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Standard Release 10.05 for ONP to Base03 PCLs and above, up to and
including CSP12/Base13 (for example, NA012).

October 15, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Standard Release 10.04 for ONP to Base03 PCLs and above, up to and
including CSP12/Base13 (for example, NA012).

September 28, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 10.03 for ONP to Base03 PCLs and above, up to and
including CSP12/Base13 (for example, NA012).

September 2, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 10.02 for ONP to Base03 PCLs and above, up to and
including CSP12/Base13 (for example, NA012).
- changed preferred ONP method to AutoONP and put manual ONP in
  appendix D.

August 13, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 10.01 for ONP to Base03 PCLs and above, up to and
including CSP12/Base13 (for example, NA012).

August 11, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Draft Release 10.00 for ONP to Base03 PCLs and above, up to and
including CSP12/Base13 (for example, NA012).

June 28, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 09.04 for ONP to Base03 PCLs and above, up to and
including CSP11/Base12 (for example, NA011) and CSP10.4.
- volume 2 incorporated note regarding file listing capabilities for
  commands LISTVOLS versus LISTFL.

June 11, 1999

297-8991-303 *One Night Process Software Delivery* **DRAFT** Release 09.02
for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for
example, NA011) and CSP10.4 for XA-Core.
- volume 2 incorporated design review feedback for
  AUTO_UNSPLIT_OFF , TABXFR, PRESWACT and SCANF.

June 1, 1999

297-8991-303 *One Night Process Software Delivery Procedures* **Draft**
Release 09.01 for ONP to Base03 PCLs and above, up to and including
CSP11/Base12 (for example, NA011) and CSP10.4.
- split document into 2 volumes.
- documented the manual ONP procedure required for XA-Core
- Appendix A updated with new commands
- restructured Volume 1 and Volume 2

May 31, 1999

297-8991-303 *One Night Process Software Delivery Procedures* **Standard**
Release 08.05 for ONP to Base03 PCLs and above, up to and including
CSP11/Base12 (for example, NA011).
- changed variable TABXFR_LIMIT in procedures AUTOONP (step 9),
  AUTOONP MOCK (step 7), and CMMOCK (step 3): changed LIMIT
  to UNLIMITED and removed "or unlimited" from text "…is equivalent
  to no limit or unlimited."
- changed step 6 of CMMOCK procedure in appendix E: removed
  (CSP11->) from step SET_LOGIN_BANNER and added step
  DISABLE_PRSM_AUDIT_ACT.

May 6, 1999

297-8991-303 *One Night Process Software Delivery Procedures* **Standard**
Release 08.04 for ONP to Base03 PCLs and above, up to and including
CSP11/Base12 (for example, NA011).
- uniformized headings, page numbering, headers, etc. throughout the
  document.
- changed all references to Nortel and Northern Telecom to Nortel
  Networks.
- changed minimum base level on cover page, title page, and the following
  three dates in the Publication History from "Base12" back to "Base03".
- added information on minimum STP load levels for using AutoONP.
- added Precheck steps for CSP08 and higher in step 10 of the Site
  Preparation procedure section of the ONP SuperNode MOP chapter.
- added information on TIMEFRAME command for CSP07 and higher to
  procedure 1, step 2 of the AUTOTABAUDIT procedure section of the
  ONP SuperNode MOP chapter.
- added step for 911 test call to procedure 8 of the SWACT and
  POSTSWACT procedure section of the ONP SuperNode MOP chapter.
- added information on SWUPGRADE READY in Appendix A.
- added information on step DISPLAY_NOC_USERS in the
  BCSUPGRADE summary section of Appendix A.
- updated section Procedure for loading the BMMI Data Dictionary of
  Appendix B to show the different filenames for CSP10 and higher.

- removed information on Nortel on-line help in the Introduction section of Appendix D.
- added information on using the CANCEL command in the Introduction section of Appendix D.
- clarified the use of the CANCEL command in the AutoONP procedure (steps 7 and 16) in Appendix D.
- corrected setting definition of variable TABXFR_LIMIT in the AutoONP, AutoONP Mock and CMMOCK procedures (Appendices D and E).
- in AutoONP and Mock AutoONP, corrected command syntax for displaying logs using LOGUTIL
- added information on which loads automatically log the user after SWACT in the AutoONP procedure.
- revised Important note for procedure 8, step 4 of the SWACT and POSTSWACT procedure (chapter 3), and for procedure 1, step 17 of the AutoONP procedure (Appendix D).
- added Cancel TABXFR steps to procedure 1 of the Revert AutoONP procedure in Appendix D.
- added CMMOCK section to Appendix E.
- expanded table listing in Procedure 1 of Appendix F.

March 31, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 08.03 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011).
- Environmental variable AUTODUMP added to step 9 (set up environment variables) of Appendix D.
- Environmental variable AUTODUMP added to step 7 (set up environment variables) of Appendix E.
- Release number upissued to 08.03.

March 11, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 08.02 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011).
- Title page and footers modified to reflect preliminary release.
- Release number upissued to 08.02.

February 25, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 08.01 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011).

November 3, 1998

> 297-8991-303 *One Night Process Software Delivery Procedures* **Standard** Release 07.04 for ONP to Base03 PCLs and up, including CSP10/Base11 (for example, NA010).

September 22, 1998

> 297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 07.03 for ONP to Base03 PCLs and up, including CSP10/Base11 (for example, NA010).
>
> - The AutoONP MOP for coming from Base07 (such as NA006) and higher is included as Appendix D. Do *not* separate the AutoONP MOP from the ONP MOP because of reference to ONP DIRP/billing section.
> - Under section "Site preparation procedure" in procedure "Processor tests SuperNode", removed the step to JAM the CM while performing front-end testing. Due to CM hardware and software evolution this action is no longer a requirement.

August 18, 1998

> 297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 07.02 for ONP to Base03 PCLs and up, including CSP10/Base11 (for example, NA010).

August 10, 1998

> 297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 07.01 for ONP to Base03 PCLs and up, including CSP10/Base11 (for example, NA010). Limited release for first phase VO only.

February 12, 1998

> 297-8991-303 *One Night Process Software Delivery Procedures* **Standard** Release 06.01 for ONP to Base03 PCLs and up, including CSP09/Base10 (for example, NA009).

December 12, 1997

> 297-8991-303 *One Night Process Software Delivery Procedures* **Standard** Release 05.04 for ONP to Base09. Limited distribution for review.

October 20, 1997

> 297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 05.03 for ONP to Base09.

September 29, 1997

> 297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 05.02 for ONP to Base09.

August 22, 1997

> 297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 05.01 for ONP to Base09.

June 27, 1997

297-8991-303 *One Night Process Software Delivery Procedures* **Standard** Release 04.03 for ONP to Base08.

May 15, 1997

297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 04.02 for ONP to Base08.

March 6, 1997

297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 04.01 for ONP to Base08.

November 15, 1996

297-8991-303 *One Night Process Software Delivery Procedures* **Standard** Release 03.02 for ONP to Base07.

August 30, 1996

297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 03.01 for ONP to Base07, VO testing.

April 12, 1996

297-8991-303 *One Night Process Software Delivery Procedures* **Standard** Release 02.03 for ONP to Base06.

February 21, 1996

297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 02.02 for ONP to Base06.

January 22, 1996

297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 02.01 for ONP to Base06 (NA005B).

August 21, 1995

297-8991-303 *One Night Process Software Delivery Procedures* **Standard** Release 01.02 for ONP to Base05.

May 8, 1995

297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 01.01 for ONP to Base03 and higher (including Base05)

Contents

About this document

This document is *global* and is for use by customers of Nortel Networks in all parts of the world. The *One Night Process (ONP) Software Delivery Procedures* are applicable when upgrading the PCL (Product CM Load) of a DMS SuperNode switch. This document is for software upgrades *from* a PCL built on a Base07 and higher platform. The Communications Software Platform (CSP) level is generally one number lower than the Basexx designation. For example, Base07 corresponds to a CSP06 PCL. This document is applicable when using the One Night Process to upgrade *from* CSP06 and higher PCL loads *to* CSP06 and higher loads, *up to and including* CSP15 PCL loads.

This document supports software applications on both the DMS-Core Computing Module (CM) and the extended Architecture Core (XA-Core) computing engines for DMS 100 Family Switches that meet the following requirements:

- DMS SuperNode CM/SLM and XA-Core (including SuperNode SE)

- Currently operating on a PCL software base (not a BCS load)

- Upgrading from CSP06/Base07 platform PCLs and higher

ATTENTION: If the from side CM software level is not at least CSP06/Base07 and higher (or STP4.0 and higher), do not use this document to perform the software upgrade. Refer to earlier versions of NTP 297-8991-303 (11.03 or older) to perform the software upgrade.

For *ONP combined with CM card replacements,* use this document in conjunction with the appropriate Installation Manual (IM) procedure:

> — IM 02-0520 SNODE & SNODE SE CM Upgrade Planning
>
> — IM 04-0521 SNODE / SNSE CM Upgrade Preparations
>
> — IM 65-5070 SNODE Combined CM CPU & Software Upgrade
>
> — IM 65-5071 SNODE SE Combined CM CPU & Software Upgrade
>
> — IM 65-5457 Upgrading to BRISC Series 50 Mixed Memory
>
> — IM 35-5456 Memory Extension/Upgrade on the CM
>
> — IM 78-6175 XA-Core Upgrade to Release 2 Configuration

This document gives the procedures for upgrading the software on in-service DMS-100 Family products. The procedures support DMS SuperNode (SN or SNODE) switches and the various applications of SuperNode, but not NT40.

Support for offices upgrading to BCS29 and higher BCS loads is provided in
NTP 297-1001-303. That document supports both NT40 and SuperNode
switches, as well as "Hybrid process" methods.

How this document is organized.

The information in this document is organized in the following manner.

The *Introduction* chapter briefly describes how the One Night Process
software delivery works. It also explains the use of the Methods of
Procedure (MOP) sections in performing a software upgrade.

The *Site preparation overview* section provides a brief overview of the site
preparation activities that must take place before the software upgrade and
includes some additional important information.

Sections 3 through 9 comprise the One Night Process MOP (Method of
Procedure) and contain a series of detailed procedure modules with steps to
prepare for and deliver the new software load. Procedures to Revert to the
old load are also included.

Appendix A: Command Summaries provides information on using the ONP
features and commands for TABAUDIT, TABXFR, SWUPGRADE READY
and BCSUPDATE. This section contains command syntax and examples for
these and other commands used throughout the software delivery process.

Appendix B: Supplementary Procedures contains additional procedures that
may be referenced during the software delivery process.

Appendix C: Test Call Plan provides generic guidelines for creating a test call
plan for verifying the new software load. The site will be required to fill-in the
test plan and test all applicable call types prior-to and following the software
application.

Appendix D: XA-Core Release Upgrade procedures contains procedures
applicable when upgrading the release level of a DMS SuperNode XA-Core
provisioned office (for example, when upgrading from XA-Core Release 1 to
XA-Core Release 2). These include the Preliminary phase procedures,
TABXFER, PRESWACT, SWACT and POSTSWACT. Procedures to
Revert to the old load are also included.

Appendix E: CMMOCK Procedure supports the "Customer Applied ONP"
and can be used by the operating company to identify and troubleshoot table
transfer errors before the actual software delivery upgrade.

Appendix F: Software Delivery Data Services Site Preparation Guide provides information to prepare the office for a Data Services ONP.

Submitting feedback

Comments and suggestions about this document can be submitted by way of the Nortel Networks CSR process and directed to System: CUSTDOC. Any changes or revisions made to this document must be approved by the Global Software Services organization.

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1 Introduction

1.1 About the software delivery process

The One Night Process (ONP) is an automated software delivery process consisting of Procedure Oriented Type Enforcing Language (PROTEL) programs that step the user through the software delivery upgrade. These programs support the use of multiple high-level commands that enable the software delivery upgrade to be completed in a relatively short time. The automated software upgrade program or AutoONP, prompts the user to perform the required tasks as they are needed. In this respect the AutoONP actually controls the delivery of software to the DMS switch.

The ONP is divided into two major phases: the site preparation and the software load application. The site preparation phase begins about 30 days prior to the software delivery date and continues through the day of the software upgrade. In this phase, activities are performed to prepare the office for the software load application. The software load application phase occurs on the night of the software upgrade and can be divided into three main areas. These areas are the preliminary or set-up phase, the data transfer phase, and finally the new load activation and completion phase. All of the steps and application functions needed to activate the new PCL software must be completed in the proper sequence.

1.2 Using the MOP

The software delivery method of procedure (MOP) is performed in phases. In this document the procedures required for each phase are grouped into sections. In each section, numbered procedures contain the various steps necessary to complete the required phase. All procedures in each phase must be completed in the order given.

The person or group responsible for performing a step is indicated in "bold" at the beginning of the procedure or step. Throughout this document "Operating Company" refers to the Telephone (or Carrier) Operating Company; "Site" refers to the craftsperson or other personnel on-location at the DMS switch; and "App" refers to the Applicator or software delivery engineer who performs the actual ONP upgrade. In these procedures "ACT" or "INACT" refers to the Active side and Inactive side of the switch, respectively, on which to perform an action.

"CM SWACT" (or "SWACT") refers to the switch of activity between the processors in the Computing Module (CM) of the DMS-Core. Throughout

this document the term "from-side" refers to the old (or current) PCL software load; and "to-side" refers to the new PCL software load.

In this document "Test Call Scripts" refers to the verification calls as predefined by the Telephone/Carrier Operating Company. These are test calls to be performed by the operating company before and after the new software load is activated in order to determine acceptance of the new load.

2 Site preparation overview

2.1 Planning activities

A successful software delivery upgrade will require certain activities to be performed before the ONP. Some of these activities will depend on factors such as office type and the PCL load being delivered. This section provides a brief overview of the site preparation activities that must take place before the ONP. Other required activities not listed in this section must be approved by and coordinated through the appropriate Nortel Networks customer representatives. The following information: administrative, warnings, and software delivery data services should be reviewed by office personnel as soon as this document is received.

2.1.1 Administrative

The following administrative functions need to occur for all offices in advance of the scheduled software delivery upgrade.

- Pre-application activities will include upgrading all peripherals (including remotes) to PM loads compatible with the new PCL software load. In addition, Network (ENET) and Message Switch (MS) software upgrades must be completed before the ONP.

- Offices equipped with Services Provider Equipment (for example Access Node, EDRAM, DPP, etc.) must consult the appropriate DMS Feature Planning Guides and DMS Customer Engineering documents to determine the required releases of NCL (Non-CM Load) software. Proper software and hardware compatibility is required to avoid an unsupported configuration with these products.

- If the office is equipped with TOPS-OC (Operator Centralization) refer to feature NC0152 (Host/Remote Networking by Queue Type) in the DMS Translation Guides. This feature describes the PCL software delivery strategy for TOPS-OC offices.

- In order to minimize the impact on an office Nortel Networks recommends the ONP be performed within the operating company's "maintenance window" and time of switch of activity (SWACT) to the new PCL software be scheduled to occur during low traffic periods. Specific operating company policies should be used to establish the estimated time of SWACT.

- Site personnel must provide advance notification of the software delivery upgrade to operating company control centers, operator services, and other organizations that could be affected during the ONP.

- Offices equipped with Centralized Automatic Message Accounting (CAMA) or Local Automatic Message Accounting (LAMA) will arrange for the validation of an Automatic Message Accounting (AMA) test tape with the site billing center. Such testing may also include Station Message Detail Recording (SMDR) or Other Common Carrier (OCC). The site billing center must be informed of this requirement four weeks before the software update. This test should be performed during POSTSWACT activities (execution of Test Call Scripts). Ensure that the *AMADUMP User's Guide* (NTP 29C-1001-119) is readily available.

- Offices equipped with DPP or BMC actively collecting billing information may arrange with the downstream processing center to poll the billing information during PRESWACT and, optionally, during POSTSWACT.

- For offices equipped with an SDM, upgrade the SDM before the ONP. Refer to the SDM Upgrade Guide (297-5051-304) for details.

- For offices equipped with an SDM and running DDMS, plan to upgrade to DDMS schema file immediately after the ONP. Refer to the DDMS and Guide, Installation and Administration Reference Manual (297-5051-914), the "Installing DDMS" chapter for information about "DDMS upgrade for CM one night process (ONP)" for details.

2.1.2 Warnings

Allow sufficient time, 8 hours or more for DATADUMP to run.

Nortel Networks recommends that a complete TABAUDIT be executed beginning at I-30 days. (Refer to the TABAUDIT procedure) By I–2 days TABAUDIT (or AUTOTABAUDIT) must be completed with <u>no errors on all tables</u> (except Non-ONP impacting failures listed in Customer Service bulletins). Table errors must be corrected and TABAUDIT executed again to verify the corrections.

If a table has to be changed after the initial TABAUDIT, the operating company is responsible to re-run a complete TABAUDIT and ensure all tables pass. It is important to note that a change in one table may also affect data in other tables. For this reason it is necessary to execute a complete TABAUDIT after any table change.

In order to minimize the impact of recent table changes on the ONP, limit all table changes (except using SERVORD) beginning two weeks before the ONP. Any table changes associated with a hardware upgrade must also be verified with TABAUDIT. If necessary, two to four days before the ONP re-run a complete TABAUDIT to ensure all tables pass with no errors.

Ensure no peripheral hardware or software changes, including retrofits, extensions, or maintenance activities, will be in progress during the ONP. These activities are prohibited during the software delivery application. The affected hardware must be made INB (installation busy), in both the host and remote office. Such activities would include, *but are not restricted to*, any of the following:

- Network extensions

- Peripheral additions or deletions

- MSB7 to LPP cutovers

Recently removed hardware must have all associated software removed as well. Peripheral hardware that is not in the in-service or offline state may jeopardize the software delivery application.

2.1.3 Software Delivery Data Services

The operating company may request changes to office data which can best be done during an ONP, but which require special considerations. These requests must be identified ahead-of-time and the job scheduled appropriately. Software Delivery Data Services require a like-to-like ONP (for example: LEC0015 to LEC0015) and include the following activities:

- LINEATTR DELETIONS*

- PERIPHERAL RENAMING

- PERIPHERAL RENUMBERING

- CHANGING OR DELETING REMOTE SITE NAMES

    *Data Service ONP no longer required from NA011 or higher

Nortel Network's Global Software Services group manages the process for making office data changes during the ONP. The site preparation activities that must be completed before a Data Services ONP will vary slightly from a normal ONP. In addition to some of the normal site preparation activities, the Data Services ONP will require important procedures which must be performed in order to insure datafill consistency during the ONP. A basic Software Delivery Data Services site preparation guideline is provided in appendix F of this document. For more information concerning Software Delivery Data Services please contact your Nortel Networks regional customer representative.

2.2 Pre-application activities

Pre-application activities can include (but are not restricted to) the following:

- First shipment of ONP tapes and documentation to the site

- Site polling by Nortel Networks to obtain specific switch information

- Site preparation procedures

- TABAUDIT procedure

- Final shipment of ONP tapes and documentation to site

- Pre-loading the message switch

- Site ready checks

- Site responsibilities the day of the software upgrade

Some of the above activities will be completed by Nortel Networks personnel and some will be completed by the operating company. Site personnel responsible for completing pre-application activities should become familiar with all sections of this document to ensure designated activities are completed on time. In addition, site personnel should also be familiar with the *Data Schema Changes* and the *Peripheral Module Software Release Document* for the new PCL software release level.

2.3 Cancellations or reschedules

Some circumstances may require the software delivery upgrade to be temporarily cancelled or rescheduled to a later date. Depending on when this occurs in the software delivery process, it may be necessary to establish a new schedule of pre-application activities which will include new dates, times, and possible reshipment of ONP tapes and documentation. If for any reason a software upgrade is cancelled or requires rescheduling, contact your Nortel Networks regional customer representative immediately to coordinate a new software upgrade schedule of events. In the event a reshipment of ONP tapes is necessary, the operating company must label accordingly or discard any previous shipments to ensure the most current version of ONP tapes will be used for the software upgrade.

3 Site preparation phase

Begin this section when the <u>first shipment</u> of ONP tapes and documentation arrives on site (shipped approximately 35 days before the ONP). In addition to this document, Nortel Networks will also ship the *Peripheral Module Software Release Document*.

3.1 Software Delivery Data Services

If a like-to-like ONP (for example, LEC0015 to LEC0015) has been scheduled for the purpose of completing a data services change, turn to Appendix F to perform the Data Services Site Preparation activities. Otherwise, continue with this section.

3.2 Site preparation procedures

Site personnel should become familiar with all of the AutoONP site preparation procedures before proceeding. In order to prepare the office for a successful software upgrade, the following procedures must be completed by the time intervals indicated: <u>Site preparation procedure</u>, <u>TABAUDIT procedure</u>, and <u>Pre-loading the Message Switch</u>. If any of these procedures are not completed by the final office review, the software upgrade will be put on hold.

CAUTION
Applying the following types of patches within 30 days of the scheduled software upgrade must be considered a gating issue to the ONP:
Active (ACT) patch applied and activated
Limited (LTD) status patch
Verification (VO) status patch
If any of the above patches are applied to the office within 30 days of the ONP, immediately contact your Nortel Networks regional customer representative or call the Global Software Services Hotline for your region.

3.3 Procedures

3.3.1 Procedure 1 – Verify ONP tapes

1   **Site/ACT** The operating company is encouraged to verify the new software load tapes received from Nortel Networks.

Note: The following steps do not apply to the TAS NONRES tape which is used only by Nortel Networks technical support to provide access to certain non-resident software tools.

   a.   INSERT and LIST each tape.

```
> DISKUT
> IT <device_name>
```
Where <device_name> is S00T or S01T (for SLM tape).
Where <device_name> is F02UTAPE or F17UTAPE (for XA-Core tape).

   b.   Verify the tape is good.

```
> LF <device_name>
```
Go to step 2 if the tape lists without error.

   c.   If the tape has an error eject the tape.

```
> ET <device_name>
```

   d.   Repeat step a on a different device to determine whether the tape or the device is at fault. If any problems persist, notify your Nortel Networks regional customer representative.

2   **Site** Keep the tapes on-site for use during the scheduled software update.

3   **Site** On any Disk Drive used for primary billing collection (such as AMA SMDR OCC CDR), perform routine maintenance on the disk to ensure it is functioning properly. If excessive "bad blocks" are present, reformat the disk.

Note: If for any reason the software upgrade requires a reshipment of ONP tapes (defective tapes, job cancelled or rescheduled to a later date), the operating company must take appropriate action to label accordingly or discard the previous shipments. This is to ensure the most current version of ONP tapes will be used for the software upgrade. Failure to use the most current version of ONP tapes could cause problems during the ONP. Questions or concerns regarding ONP tape reshipments should be directed to your Nortel Networks regional customer representative.

3.3.2 Procedure 2 - PM loading and patching

1 **Site** Begin loading and patching the PERIPHERAL MODULES with the new PM software according to the appropriate *Peripheral Module Software Release Document.*

ATTENTION

In some markets the PM Load Tape contains a "patched current" MS load file. When updating and patching loads in the Message Switch (MS) using this file, follow procedures in the appropriate Peripheral Module Software Release Document.

Note: The PMUPGRADE tool is available to automate many of the tasks in a PM update. Refer to "Overview of automated update process" in the *Peripheral Module Software Release Document.*

3.3.3 Procedure 3 – Check disk space & take image

CAUTION

Ensure there will be sufficient disk space for office images during the ONP.
If necessary erase old image files, re-allocate the disk volume, or both. For
disk utility assistance, contact the next level of support.

---

1   **Site/ACT** Make sure enough space is available on the disk volume to put
another office image. If necessary, go into Diskut to list the volume, ERASE
the oldest image file. When done quit the Diskut level.

```
> DISKUT
```

```
> LV
```

```
> LF <volume_name>
```

```
> DDF <file_name>
```

```
> QUIT
```

Note:-A volume can have more files listed by command LISTVOLS than by
command LISTFL in the MAP disk utility. The difference in the number of
files between the commands is because of directory files not displayed by
command LISTFL.

---

2   **Site/ACT** Dump an OFFICE IMAGE to an available disk volume. Back this
image up to a tape cartridge.

At the CI level the following command is available for this step:

```
> DUMP <filename> <volume_name> active update verbose
node cm
```

Note: Other commands such as AUTODUMP MANUAL can also be used
(refer to appropriate NTP for *Routine Maintenance Procedures*).

3.3.4 Procedure 4 - Route system logs

The following system logs should be monitored during the Site Preparation phase to ensure front end stability:

For CM/SLM: *For XA-Core:*

CM   — Computing Module   XAC — XA-Core

MS   — Message Switch   MS   — Message Switch

MM   — Mismatches   MM   — Mismatches

SLM — System Load Module   SYSLOG — System Logs

                                                        ISYSLOG — Inactive System Logs

This procedure will ensure these logs are not suppressed and are routed to an active log device for monitoring.

1   **Site/ACT** Setting up the logs

```
> LOGUTIL
> LISTREPS SPECIAL
```

If any of the above logs are suppressed use the following command to resume them:

```
> RESUME <log>
```
Where <log> refers to specific CM or XAC, MS, MM, SLM or System logs.

If any of the above logs have a threshold set, use the following command to unthreshold them:

```
> THRESHOLD 0 <log>
```
Where <log> refers to specific CM or XAC, MS, MM, SLM or System logs.

2   **ACT** Routing the logs to a printer device

```
> LISTROUTE DEVICE <printer>
```

If any of the above logs are *not* routed use the following command to route them:

```
> ADDREP <printer> <log>
```
Do this for each log if necessary.

3   **ACT** Starting the printer device

```
> STOPDEV <printer>
> STARTDEV <printer>
> LEAVE
```

IMPORTANT: All stability issues identified by any of the above logs must be resolved during the Site Preparation phase.

3.3.5 Procedure 5 - Processor tests SuperNode

To ensure front-end stability Site should complete the following tests before being contacted for the pre-application checks.

__ATTENTION__: If office is equipped with an XA-Core front end, begin this procedure at STEP 28.

1 **Site** Ensure the CPUs are in SYNC and the Inactive side is NOT jammed.

2 **ACT** Match the memory from the Memory level of the MAP.

> `MAPCI;MTC;CM;MEMORY;MATCH ALL`

> `QUIT`

3 **ACT** Drop SYNC from the CM level of the MAP.

> `DPSYNC`

> `YES`   *{for confirmation}*

4 **INACT** Wait for the Inactive CPU to return to flashing A1.

5 Test the CM stability with each of the following restarts on the *inactive Reset Terminal* ONLY.

    a. **INACT** `RTIF> \RESTART WARM`

       `RTIF> YES`   *{for confirmation}*
       Wait for a flashing A1.

    b. **INACT** `RTIF> \RESTART COLD`

       `RTIF> YES`   *{for confirmation}*
       Wait for a flashing A1.

    c. **INACT** `RTIF> \RESTART RELOAD`

       `RTIF> YES`   *{for confirmation}*
       Wait for a flashing A1.

6 **ACT** Test the memory cards from the Memory level of the MAP.

> `MEMORY;TST ALL LONG`
This test will take up to 15 minutes to test each memory card.

> `YES`   *{for confirmation}*

> `QUIT`

—continued—

Procedure 5
Processor tests SuperNode (continued)

7   After completion of the tests, check the CM logs and verify that no CM112
        logs have been reported during the test. If needed, resolve any problems
        and repeat step 6.

8   **ACT** SYNC the CPUs from the CM level of the MAP.

        > SYNC

9   After receiving the "Synchronization Successful" message, verify no faults
        are displayed at the CM or Memory levels of the MAP.

10   **ACT** Switch activity of the CPUs from the CM level.

        > SWACT

11   **INACT** Repeat steps 1 through 10 on the newly-inactive CPU.

12   Verify the CPUs remain in SYNC.

13   **ACT** Match the memory from the Memory level of the MAP.

        > MEMORY;MATCH ALL

        > QUIT

14   **ACT** Perform a long REX test from the CM level.

        > REXTST FULL

        > YES   *{for confirmation}*
        CPU SYNC, Message Controller (MC), and Subsystem Clock (SSC) states
        will change. The CPUs will be out of SYNC for at least 60 minutes.

15   **ACT** After completion of the test, verify the test results:

        > QUERYCM REXRESULT
        The CPUs should be back in SYNC with no REX alarms at the CM level or
        on the main MAP display header. If the test failed, contact the site
        supervisor to resolve any problems and repeat steps 14 and 15.

—continued—

Procedure 5
Processor tests SuperNode (continued)

16	**ACT** Perform an image test from the CMMNT level of the MAP.

> `CMMNT`

> `IMAGE`

> `QUIT`

17	After completion of the test, check for CM logs indicating pass or fail message. If test failed, clear the problem and repeat step 16.

18	**ACT** Busy the Slave MS from the MS level of the MAP.

> `MS;BSY <`**x**`>`
Where <x> refers to the Slave MS (look under Clock field).

19	**ACT** Test the MS from the MS level.

> `TST <`**x**`>`

20	After completion of the test the results of the test are displayed. If the test failed, resolve any problems and repeat the previous step.

21	**ACT** Return the busied MS to service.

> `RTS <`**x**`>`

22	Wait 5 minutes to ensure the clocks are stable and to allow the hardware audit to run. Both MS should be inservice.

23	**ACT** Switch MS clock mastership.

> `SWMAST`

24	Wait an additional 10 minutes to allow MS clocks to completely stabilize.

25	Test the other MS by repeating steps 18 through 22.

26	**ACT** > `QUIT ALL`

27	Continue to monitor front-end stability logs (CM, MS, SLM, and MM logs) until the scheduled start of the ONP.

<u>ATTENTION</u>: If office is equipped with a CM/SLM front end, stop here. DO NOT continue.

—continued—

Procedure 5
Processor tests SuperNode (continued)

ATTENTION: Complete the following steps ONLY if office is equipped with an XA-Core front end.

28   **ACT** Check that the switch is in DUPLEX from the Shared Memory MAP level. The sync banner should not be present. All memory cards should be InSv and the physical and useable memory values should be identical.

> `> MAPCI;MTC;XAC;SM`

29   **ACT** Run a routine exercise test from the MAP.

> `> XACMTC`

> `> REXTST RUN FULL`

30   **ACT** REx results will be displayed on the MAP.

Complete diagnostics are available in the XAC415 log.

> `> LOGUTIL`

> `> OPEN XAC 415`

> `> QUIT`

31   **ACT** Go to the Shared Memory level of the MAP.

> `> SM`

Wait for Shared Memory to SYNC.

`SYNC IN PROGRESS` notice will be viewed in the SM level of the MAP. When the notice no longer appears, the memory is in sync and you may proceed with the following steps.

—continued—

Procedure 5
Processor tests XA-Core   (continued)

32   **ACT** Test each core element through the following procedures.

   a.   Go to SM level of the MAP and test the Shared Memory cards.

```
> SM;
> BSY <slot> <side>
> TST <slot> <side>
> RTS <slot> <side>
```
Where <slot> is slot of element and <side> is F for front or R for rear.

Repeat for each Shared Memory card provisioned.

   b.   Go to the PE level of the MAP and test the Processor Elements.

```
> PE
> BSY <slot> <side> FORCE
> YES                                              {to confirm}
> TST <slot> <side>
> TST <slot> <side>
```
Where <slot> is slot of element and <side> is F for front or R for rear.

Repeat for each Processor Element card provisioned.

   c.   Go to the IO level of the MAP and test the Input/Output Processors.

```
> IO
> BSY <slot> <side> FORCE
> YES                                              (to confirm}
> TST <slot> <side>
> RTS <slot> <side>
```
Where <slot> is slot of element and <side> is F for front or R for rear.

Repeat for each Input/Output Processor card provisioned.

Note: This action will cause rotation of billing on IOPs where billing may be provisioned

```
> QUIT ALL
```

33   **ACT** Busy the Slave MS from the MS level of the MAP.

```
> MS;BSY <x>
```
Where <x> refers to the Slave MS (look under Clock field).

34   **ACT** Test the MS from the MS level.

```
> TST <x>
```

35   After completion of the test the results of the test are displayed. If the test failed, resolve any problems and repeat the previous step.

—continued—

Procedure 5
Processor tests XA-Core   (continued)

36   **ACT** Return the busied MS to service.

> RTS <**x**>

37   Wait 5 minutes to ensure the clocks are stable and to allow the hardware audit to run. Both MS should be inservice.

38   **ACT** Switch MS clock mastership.

> SWMAST

39   Wait an additional 10 minutes to allow MS clocks to completely stabilize.

40   Test the other MS by repeating steps 33 through 39.

41   **ACT** Quit out of the MS level.

> QUIT ALL

42   Continue to monitor front-end stability logs (XAC and MS logs) until the scheduled start of the ONP.

3.3.6 Procedure 6 - Clean up SFDEV

The storefile device (SFDEV) should be cleaned up in order to maximize space for ONP work.

1   **Site/ACT** Clean up SFDEV to maximize space for ONP work.

Any patches and process files downloaded for the ONP must remain where they were downloaded - Do not erase these files.

Copy old from-side patches in SFDEV to another storage device.

Erase all the nonessential files and patches in SFDEV using the following command:

```
> ERASESF <file_name>
```

Note: Important operating company or site-created files can be copied to a scratch tape and manually restored to SFDEV following the ONP.

3.3.7 Procedure 7 - Verify table OCGRP in TOPS offices

1 **Site** In TOPS offices table OCGRP datafill must be verified.

Table OCGRP (Operator Centralization Group) is indexed by office and associates each office with the voice link group and data link group that connect it. Table OCGRP designates whether the connected office is a host or remote, and field BCSLEVEL indicates the lower BCS level of the two connected offices.

CAUTION
Verify table OCGRP datafill is correct for TOPS networks.
Incorrect datafill of field BCSLEVEL could cause an outage. Refer to the DMS-100 Translations Guide procedures for datafilling field BCSLEVEL in table OCGRP.

Before an software upgrade table OCGRP must have the correct value in field BCSLEVEL or TABXFR failures may result. For each tuple in table OCGRP of the office to be upgraded ensure that the value of field BCSLEVEL is correct and current. The correct value for field BCSLEVEL is the lower value (BCS level) of the two connected offices associated by the tuple in table OCGRP.

---

2 **ACT** Determine the BCS level in the office to be upgraded:

```
> TABLE OFCSTD;POS BCS_NUMBER;QUIT
```

Use this same command in the "connected" offices to determine their BCS level. The values indicated by the table OFCSTD tuple should be used to determine the correct values for the BCSLEVEL fields in table OCGRP for each connected office. If necessary change field BCSLEVEL to the lower value (BCS level) of the two connected offices associated by the tuple in table OCGRP.

—continued—

Procedure 7
Verify table OCGRP in TOPS offices (continued)

3   **ACT** To change the BCSLEVEL field (host or remote) do the following:

```
> TABLE OCGRP
> POS <office_name>
> CHA BCSLEVEL <host/remote_bcs_level>
> YES                                          {for confirmation}
```

Note: No more than three (3) BCS levels difference between the host and remote offices are permitted. The BCSLEVEL cannot be changed to a value greater than the current BCS level of the office containing the table.

<u>WARNING</u>: Ensure that the value of BCSLEVEL is not greater than the BCS level of the connected office (the office connected by this tuple). Serious problems may result if it is a greater value.

4   *<u>IMPORTANT</u>:* Verify and update table OCGRP after the ONP.

After the ONP is complete table OCGRP must be verified again and, if necessary, updated to reflect the software upgrade. In the upgraded switch, for each tuple in table OCGRP (each tuple defines a link set that connects the upgraded office to another office in the network) change field BCSLEVEL to reflect the upgrade (the lower BCS level of the two offices).

Depending on whether the upgraded office was a host, remote, or host/remote, it may be necessary to also change the BCSLEVEL value in the connected office. The BCSLEVEL field in table OCGRP must be kept current with changes in the network because it defines the OC messaging format used between the two connecting offices.

3.3.8 Procedure 8 - Table ACDGRP

1 **Site/ACT** Find all the "holes" in table ACDGRP and fill them with dummy tuples as follows. Otherwise, you may be unable to retrieve MIS reports from some ACDGRPs.

  a. `> OMSHOW ACDGRP ACTIVE`

  b. Look for nonconsecutive keys
    (Example: 0 2 3 5 6 has 1 and 4 missing.)

  c. For any missing tuples, have translation personnel datafill dummy tuples in the key indexes. (This prevents wrong renumbering during the software update.)

  d. Also provide datafill in table DNROUTE for each corresponding dummy tuple added in table ACDGRP.

3.3.9 Procedure 9 - Fill in Test Call Scripts

Test calls should be made and verified to work as expected prior to the ONP, preferably on the day of the ONP. Identify calling irregularities ahead-of-time. This will avoid after SWACT unnecessary investigation of a pre-existing condition.

1 **Site** Fill in and test the Test Call Scripts. Refer to Appendix C for guidelines for creating a test call plan.

Test Call Scripts are necessary to provide a thorough test plan exercise for validating the new software load. Test calls must be made both before and after switch of activity to the new software load.

3.3.10 Procedure 10 - Site Ready DMS-resident maintenance tool

Nortel Networks recommends this procedure be performed at the end of the site preparation phase and before any office pre-application checks. The Site Ready maintenance tool should be used routinely in preparation for ONP software upgrades. When executed, the Site Ready tool will sequentially complete a series of steps that can be used to aid the operating company in determining switch readiness prior to the ONP.

ATTENTION: If current PCL is CSP08 and higher, perform only step 1. If current PCL is CSP07 and below, perform only step 2.

1   **Site/ACT** Set-up and execute the Site Ready DMS-resident tool.

   Note: Perform this step only if upgrading from CSP08 and higher.

   a.   Login to the DMS using the userid and password that will be used to perform the ONP. The Site Ready tool will verify that this userid and password have the required privileges to perform the ONP.

   b.   Enter the SWUPGRADE READY platform.

   ```
   > SWUPGRADE READY
   ```

   Note: The SWUPGRADE command increment includes several platforms and the end user has access to only one platform at a time. If the command fails to enter the READY platform because SWUPGRADE is already in use, perform step 2.

   c.   Begin the SWUPGRADE process.

   ```
   > START
   ```

   Note: Step SETUP_ENV_VARS prompts the user for values and sets the environment variables that will be used during the READY session. Default values appear in square brackets (some variables have no default). To accept a default value press <return> without entering a value. The variables are:

   Variable: **TRACE_DEVICE** [(no default)]

   Holds the device name on which output messages are displayed. Changing the value of this variable causes output to be redirected to the new device.

   Recommended setting is device you are logged onto.

   Note: When typing the trace device name, be certain it is entered correctly.

   Value: <trace device name> - a string, such as MAP.

—continued—

**Procedure 10
Site Ready DMS-resident maintenance tool (continued)**

Variable: **LOGS** [TRAP SWERR CM CMSM MS (for CM/SLM)] or
[TRAP SWERR XAC MS (for XA-Core)]

Holds the names of the logs to be considered by step
VERIFY_LOGS_INFO. More than one log can be specified by
entering log names separated by a blank.

Recommended settings is the default logs.

Value: <log name list> - one or more log names.

Variable: **TO_CSP_CM_LOAD** [(no default)]

Holds the value of the CSP load that the site plans to upgrade to.
This variable is used to check the PMs for a software load which
equals this value.

Recommended settings is the to CM load number.

Value: <2 digit number>

eg1: 14 - for LEC00014, LET00014, LLT00014, etc.
eg2: 15 - for LEC00015, LET00015, LLT00015, etc.

Variable: **PM_VERIFY_FILE** [NONE]

Holds the name of the downloadable verification file used during
step VERIFY_PM_LOAD_NAMES to validate the queried
peripheral module loads for a given CSP load.

***Unless your market has provided a file, the recommended
setting is the default: NONE***

Value: <file name> - or NONE

eg1: PMCHECK14 - validates PM loads for CSP14.
eg2: PMCHECK15 - validates PM loads for CSP15.

—continued—

Procedure 10
Site Ready DMS-resident maintenance tool (continued)

Variable: **PRINTER** [SINK]

Holds the name of the printer on which output messages are recorded. The printer echoes all output sent to the trace device. Changing the value of this variable causes the recording to be directed to the new device.

Recommended setting is to add a printer name for this variable. Default is SINK which causes no printout.

Value: <printer name> or SINK

Where <printer name> is a device datafilled in table TERMDEV.

eg1: LP021 - Record from the trace device onto LP021.
eg2: SINK - Do NOT record.

Variable: **PAUSE_ENABLED** [YES]

Used to determine if the READY steps will run continuously or be paused after executing. A NO setting allows the READY platform to run until completion of all steps. A YES setting will pause after each step is run, allowing time for the user to review the results.

Recommended settings is the default: YES.

Value: <yes> - or NO.

When all environment variables have been input, a full list of all the values is displayed. Check the value of all variables, and if necessary use the SET command to make corrections.

Examples:
```
> SET TRACE_DEVICE MAP
> SET PAUSE_ENABLED YES
> SET LOGS 'TRAP SWERR'
```

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Environment variables can be displayed at any time by typing on the ACT_terminal:

```
> DISP VAR ALL
```
or
```
> DISP VAR <variable_name>
```

—continued—

Procedure 10
Site Ready DMS-resident maintenance tool (continued)

  d.   Execute the READY steps.

> `> GO`

Ensure all READY steps complete successfully. If a READY step fails, investigate and correct the problem before continuing, or OVERRIDE the step and continue

> `> OVERRIDE <`**`step_name`**`>`
> `> YES`   *{for confirmation}*
> `> GO`   *{to continue}*

Individual READY steps can also be executed (out of sequence) by using the RUNSTEP command within the SWUPGRADE increment.

> `> RUNSTEP <`**`step_name`**`>`
> `> YES`   *{for confirmation}*

When READY successfully completes, the READY_STATUS step displays a list of the READY steps. To view the status of the steps at any time use the following command:

> `> DISP STEPS`

Note: For additional information on SWUPGRADE READY steps, use the HELP command.

> `> HELP <`**`step_name`**`>`

  e.   When the READY session is complete, exit the READY platform.

> `> CANCEL`
> `> YES`   {for confirmation}

  f.   Exit the SWUPGRADE increment.

> `> QUIT`   *{exits SWUPGRADE}*

Note: For additional information on SWUPGRADE READY steps, see section "SWUPGRADE READY" in Appendix A.

—continued—

Procedure 10
Site Ready DMS-resident maintenance tool (continued)

ATTENTION: Perform this step if current PCL is CSP07 and lower,or if
SWUPGRADE failed to enter the READY platform because
SWUPGRADE is already is use.

2   **Site/ACT** Set-up and execute the Site Ready DMS-resident tool.

Note: Perform this step only if current PCL is CSP07 and lower.

   a.   Login to the DMS using the userid and password that will be used to
perform the ONP. The Site Ready tool will verify that this userid and
password have the required privileges to perform the ONP.

   b.   Enter the BCSUPDATE increment.

```
> BCSUPDATE
```

   c.   RESET the program steps to "NEEDED" status.

```
> RESET
> YES                                        {for confirmation}
```

   d.   Execute the PRECHECK steps.

```
> PRECHECK
```

Ensure all PRECHECK steps complete successfully. If a PRECHECK
step fails, investigate and correct the problem before continuing, or
OVERRIDE the step and continue.

```
> OVERRIDE <step_name>
> YES                                        {for confirmation}
> PRECHECK                                   {to continue}
```

Individual PRECHECK steps can also be executed (out of sequence)
by using the RUNSTEP command within the BCSUPDATE increment.

```
> RUNSTEP <step_name>

> YES                                        {for confirmation}
```

After PRECHECK successfully completes, a STATUS will be
displayed. To display the STATUS of the PRECHECK steps at any
time use the following command:

```
> STATUS PRECHECK
```

   e.   When the PRECHECK session is complete, exit the BCSUPDATE
increment.

```
> QUIT                                       {exits BCSUPDATE}
```

4 TABAUDIT procedure

Begin this procedure **30 calendar days** before the software delivery upgrade date. TABAUDIT (Table Audit) is a tool used during ONP site preparation to verify table data integrity. It is intended to eliminate the errors found during the table transfer (TABXFR) phase of the ONP and ensure a successful software upgrade. Reports are produced for generic table checks, syntax checks, and table-specific data checks including routing checks. TABAUDIT is available for all tables and is executed on the Active side with the switch in sync. Nortel Networks Global Software Services recommends auto-scheduling of TABAUDIT (AUTOTABAUDIT) instead of manual TABAUDIT.

This procedure describes the steps necessary to execute AUTOTABAUDIT on all office tables. To manually execute TABAUDIT see "Execute manual TABAUDIT procedure" in Appendix B. A manual TABAUDIT session, when executed, will occupy the terminal device until completed. Using AUTOTABAUDIT to run a scheduled TABAUDIT on all tables is preferred because it will not occupy the user's terminal. The total time to complete a scheduled TABAUDIT session will vary depending on the number and size of all office tables. It may be necessary to schedule multiple sessions in order to verify all tables in the office.

IMPORTANT: TABAUDIT must be completed with no errors on all tables in the office before the ONP. Any table errors identified by TABAUDIT must be corrected and TABAUDIT executed again (to verify corrections) on those tables. Failure to correct table errors may cause problems during the ONP and could jeopardize the software upgrade. Serious table errors should be referred to your local translations department. Additional support, if required, can be obtained by contacting your Nortel Networks regional customer representative.

CAUTION
Review all TABAUDIT customer service bulletins and notices
before attempting to correct any table data errors.
The bulletins and notices will alert you to any ONP Non-impacting failures identified by TABAUDIT. Non-impacting failures can be disregarded and do not require any corrective action.

Note: This procedure does not use all of the AUTOTABAUDIT options available to the user. Additional information can be obtained by using the help

command to generate a list of all the commands in the TABAUDIT or AUTOTABAUDIT directory. Refer to section "Using TABAUDIT and AUTOTABAUDIT" in Appendix A of this document for more information on TABAUDIT (including TABAUDIT Enhancement feature AR1917 if upgrading from Base08 and higher). Feature AR1917 improves the automated TABAUDIT scheduling capabilities, timeframe specification, and user interface.

4.1 Procedures

4.1.1 Procedure 1 - Using AUTOTABAUDIT to run TABAUDIT

AUTOTABAUDIT checks table data integrity without external guidance. The AUTOTABAUDIT directory is accessed from the TABAUDIT directory, not the CI level. The AUTO command is used to access AUTOTABAUDIT from the TABAUDIT directory. The AUTO command is qualified by the following exceptions, restrictions, and limitations:

- Only one user at a time can be in the AUTOTABAUDIT directory.

- Before executing AUTOTABAUDIT, you must define a list of session parameters from within the AUTOTABAUDIT level.

- Only one AUTOTABAUDIT session can be executed at a time; however, multiple AUTOTABAUDIT sessions can be scheduled.

- You cannot change an active AUTOTABAUDIT session's parameters without first terminating the session.

- AUTOTABAUDIT cannot be executed at the same time as TABXFR or an image dump.

The AUTOTABAUDIT increment consists of the following subcommands:

INCLUDE EXCLUDE STATUS REPORT CLEAR TIMEFRAME EXECUTE TERMINATE QUIT HELP INFO

From within the AUTOTABAUDIT increment type:
```
> HELP <subcommand>
```
for further help on any subcommand.

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

1   **Site/ACT** Set-up for AUTOTABAUDIT.

    a.   Enter the *automated* level of the TABAUDIT increment
(AUTOTABAUDIT) to enable the auto level commands.

```
CI:
> TABAUDIT

TABAUDIT:
> AUTO

AUTOTABAUDIT:
```

    b.   Clear the *included* list of tables.

```
AUTOTABAUDIT:
> CLEAR INCLUDED
```

    c.   Clear the *scheduled* list of timeframes.

```
AUTOTABAUDIT:
> CLEAR SCHEDULE ALL
```

        CAUTION: This command will clear all previously scheduled
TABAUDIT sessions identified in table AUTOTAB.

    d.   Define the list of tables to be verified.

```
AUTOTABAUDIT:
> INCLUDE ALL
```
This option will include all tables in the office.

        Note: The *included* list of tables should include all the tables listed in
table DART. The *excluded* list normally would not contain any tables.

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

2   Site/ACT Define the scheduled AUTOTABAUDIT session.

Do not schedule AUTOTABAUDIT to execute during an office image dump. Schedule AUTOTABAUDIT sessions to start after completion of AUTOIMAGE and to stop before the next AUTOIMAGE is scheduled to begin (see table IMGSCHED).

a.   For CSP06 and lower:

```
AUTOTABAUDIT:
> TIMEFRAME <start time> [start date] <stop time>
  [stop date]
```

Note: A timeframe cannot be less than 30 minutes. The date can be included as an option.

For CSP07 and higher:

```
AUTOTABAUDIT:
> TIMEFRAME SINGLE <start time> [start date] <stop
time> [stop date]
```

Note: On CSP07 (and higher) the timeframe options have been expanded to include SINGLE, DAILY, WEEKLY, and MONTHLY sessions. A timeframe cannot be less than 30 minutes or longer than 6 hours. For the monthly option, the 31st day of a month cannot be used. Up to eight different sessions can be set up. Timeframe definitions, however, must not overlap one another.

Example:

```
> TIMEFRAME SINGLE 23:30 1999:05:27 03:30 1999:05:28
```

Where   23:30   is   start time   (hr/min)
*   1999:05:27 is   start date   (yyyy/mm/dd)*
*   03:30   is   stop time   (hr/min)*
*   1999:05:28 is   stop date   (yyyy/mm/dd)*

The above definition will schedule TABAUDIT to run between the hours of 23:30 p.m. and 03:30 a.m. on May 27 and 28.

For more examples using AUTOTABAUDIT see *The TIMEFRAME command* in section "AUTOTABAUDIT enhancements" of Appendix A.

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

Example timeframe for AUTOTABAUDIT

```
                              Start          Stop
                     Start    date    Stop   date
                     time             time
                       |       |       |       |
     > TIMEFRAME SINGLE 23:30 1999:05:27 03:30 1999:05:28


     Is the following schedule correct?

     Automated Tabaudit is to execute from 23:30 to
     03:30 between the following dates:

     Start date: 1999/05/27
     Stop date:  1999/05/28

     Please confirm  ("YES", "Y", "NO", or "N"):

     > Y
```

> **b.**   Verify the scheduled AUTOTABAUDIT session parameters.
>
> ```
> AUTOTABAUDIT:
> > STATUS
> ```
> *This displays the current AUTOTABAUDIT session parameters.*

3   **Site/ACT** Execute the scheduled AUTOTABAUDIT session.

```
AUTOTABAUDIT:
> EXECUTE
```
This first shows a STATUS. If correct, confirm with "YES" when prompted.

Note: The scheduler will start AUTOTABAUDIT at the specified start
time(s), and will stop testing at the specified stop time(s). Only the *included*
tables will be tested in the order they are listed in table DART.

** TERMINATION—To stop the AUTOTABAUDIT session: from the
AUTOTABAUDIT level, type the *TERMINATE* command.
*This command halts AUTOTABAUDIT and resets the execution order of the
tables back to the top of the included list.*

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

The following example illustrates the correct use of the EXECUTE
command of AUTOTABAUDIT.

Example of AUTOTABAUDIT execute

```
AUTOTABAUDIT:
> EXECUTE


 --------------------------------------------------------
 |                                                      |
 |            AUTOMATED TABAUDIT STATUS                 |
 |                                                      |
 --------------------------------------------------------
 |  Active Timeframe       |  Executing Timeframe   |
 --------------------------------------------------------
 |  Start        Stop      |  Start        Stop     |
 |  Date         Date      |  Time         Time     |
 --------------------------------------------------------
 |  1999/05/27   1999/05/28 |  23:30        03:30    |
 --------------------------------------------------------


Current time               : 1999/05/26 15:33:09
Automated Tabaudit         : Inactive

The following tables are INCLUDED

   From table ACTPATCH (0)                to table SSRFORM (479)

The following tables are EXCLUDED

   No tables have been excluded.

Please confirm ("YES", "Y", "NO", or "N"):

> yes
```

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

4   **Site/ACT** Check the status of AUTOTABAUDIT after the scheduled stop time.

```
AUTOTABAUDIT:
> STATUS
```

Determine if AUTOTABAUDIT has completed verifying *all tables*. If AUTOTABAUDIT has not completed (process failed, insufficient time, or other reasons) determine what steps are necessary to complete the process. It may be necessary to repeat steps 1 through 3 above or to schedule multiple sessions in order to verify all tables in the office.

Note: All tables verified in table DART by a scheduled session will be recorded into a "SUMMARY$FILE" located in SFDEV. You may print this file to view the AUTOTABAUDIT process history.

5   **Site/ACT** Obtain the error report after AUTOTABAUDIT has completed.

```
AUTOTABAUDIT:
> REPORT ERRORS
```

Note: The REPORT ERRORS command will generate a report for all tables that have recorded errors. A detailed report for each table is produced. Different reports can be obtained by using the various report subcommand options. To see the options type HELP REPORT.

6   **Site/ACT** Review and correct all tables with recorded errors.

Serious table errors should be referred to your local translations department. Additional support, if required, can be obtained by contacting your Nortel Networks regional customer representative. To manually verify table errors and obtain detailed information on why a tuple has failed, perform the following steps:

a.   `> TABLE <`**`table_name`**`>`
Where <table_name> is a table with recorded errors.

b.   `> POS <`**`tuple`**`>`
Where <tuple> is the failed tuple.

c.   `> CHECK`

d.   Note the failure message and make necessary corrections. Repeat substeps a through c to verify any corrections.

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

7   **Site/ACT** Update corrections in the TABAUDIT or AUTOTABAUDIT
increment.

Execute TABAUDIT or AUTOTABAUDIT on any table that was changed or
corrected. This is necessary to verify table changes and to update the report
generated by the REPORT ERRORS command. To execute
AUTOTABAUDIT repeat steps 1through 3 above. To execute TABAUDIT
perform the following steps.

a.   `> TABAUDIT`

b.   `TABAUDIT:`
         `> INCLUDE <`**`table_name`**`>`
         Where <table_name> is a changed or corrected table.

c.   `TABAUDIT:`
         `> EXECUTE`

d.   `TABAUDIT:`
         `> REPORT <`**`table_name`**`>`

e.   Repeat substep b and c for all tables that were changed or corrected.

REMINDER: TABAUDIT or AUTOTABAUDIT must be completed with no
errors on all tables in the office before the ONP. This condition will be
verified at the final office review.

Nortel Networks Global Software Servives recommends using TABAUDIT
on a regular and ongoing basis. Making table data integrity checks a part
of normal maintenance practices can be accomplished by using the
automatic scheduling function. For assistance with TABAUDIT please
contact your Nortel Networks regional customer representative.

4.1.2 Procedure 2 - Prepare test image

Certain Nortel Networks markets require their customers to send in a "Test Image" for a Mock (dry run) ONP. <u>Only those offices need to perform the following procedure</u>. Please check with your Nortel Networks regional customer representative to determine if your market will require a test image tape. If required, perform this procedure at least 15 calendar days before the scheduled ONP date.

<u>IMPORTANT</u>: Nortel Networks must receive the test image 10 calendar (8 business) days before the scheduled ONP date to allow for enough time to perform the Mock ONP.

Note: This procedure is applicable when Nortel Networks performs the Mock ONP in a DMS lab system. Operating Companies performing the "Customer Applied" Mock ONP should refer to CMMOCK Procedure in Appendix E.

In order to access the test image in the lab system a username and password with certain conditions are required. If necessary temporarily permit or change a username and password for the test image. After the test image is complete, delete or restore the username and password.

1   **Site/ACT** Verify the username is permitted with the following conditions.

```
> SHOW USERS

NAME      PRIO STACK NRDEV LANGUAGE  PRIV

OPERATOR  4    10000  --    ENGLISH   ALL
```

Note: If the username is not permitted with conditions as stated above, permit or change using the "PERMIT" command.

---

2   Dump a system image to a disk device and copy this image to tape.

---

3   Label the image tape as "TEST IMAGE" and include the office name.

—continued—

Procedure 2
Prepare test image (continued)

4   Ship the image test tape to Nortel Networks by "overnight" air express. Be sure to include the following important image information:

- Sitename and CLLI

- User login ID (username)

- Password

- Device image taken on (IOC/CARD/PORT)

- Baud rate

- Intype

- Translations contact and number

Note: Contact your Nortel Networks regional customer representative for shipping address and instructions.

5 Restore CM and MS load files

Complete this section when the final shipment of ONP tapes arrives on site.

ATTENTION: If the final shipment is a "reshipment" the operating company must take appropriate action to label accordingly or discard any prior shipments. This ensures the most current version of ONP tapes will be used for the software upgrade. Failure to use the most current version of ONP tapes could cause problems during the software upgrade. Questions or concerns regarding ONP tape reshipments should be directed to your Nortel Networks regional customer representative.

Nortel Networks ships two "PCL" tapes (primary and backup) to the site seven days before the ONP. Each tape contains two files: the "patched current" Message Switch (MS) load file and the "non-datafilled" CM load file. In some markets this tape may contain INS patches.

In this section *procedure 1* will be used to restore the CM and MS load files to a disk volume. If not already done, *procedure 2* can be used to pre-load the Message Switch with the MS load file. The non-datafilled CM load file is used to loadmate the DMS-Core during the ONP.

CAUTION
**The operating company must ensure there is sufficient
disk space for an office image.**
Depending on the image size and available disk space, it may be necessary to erase old image files, or re-allocate the disk volume, or both to complete this procedure.

5.1 Procedures

5.1.1 Procedure 1 - Restore CM and MS load files

1   **Site** Select a disk volume onto which to restore the CM and MS load files. Use the following guidelines to select the disk volume:

- The volume should *not* be on the same disk volume with active DIRP billing.

- At the start of the AutoONP procedure, site personnel will be asked to provide which disk volume was used to restore the CM and MS load files.

For problems completing this step, contact your next level of support.

---

2   **Site/ACT** List the tape (primary or backup) containing the CM and MS load files.

a.   Place the tape cartridge into the selected tape drive.

b.   Enter the disk utility environment.

```
> DISKUT
```

c.   INSERT the tape.

```
> IT <tape_device>
```
Where <tape_device> is F02UTAPE or F17UTAPE (for XA-Core tape)
or
Where <tape_device> is S00T or S01T (for SLM tape).

d.   LIST the tape.

```
> LF <tape_device>
```

This lists files on the tape, and can take up to one hour to complete.

—continued—

Procedure 1
Restore CM and MS load files (continued)

3   **Site/ACT** Restore both CM and MS load files onto the selected disk
volume.

Note: If the MS was pre-loaded during the PM update process, it is not
necessary to restore the MS load file onto disk.

a.   **For SLM disk on CSP07 and higher**

```
> MFRESTORE FILE <disk_volume><tape_device>
  <filename_CM><filename_MS>
```
Restores <u>both</u> the CM and MS load files onto the SLM disk, where
  <disk_volume> is the SLM volume name
  <tape_device> is the SLM tape unit
  <filename_CM> is the CM load file name
  <filename_MS> is the MS load file name

For SLM disk on CSP06 and lower

```
> RE FILE <disk_volume><tape_device><filename_CM>
```
This restores the CM load file onto SLM disk.

```
> RE FILE <disk_volume><tape_device><filename_MS>
```
This restores the MS load file onto SLM disk.

For XA-Core disk

Use the SCANF command to restore the load files.

```
> SCANF <tape_device> COPY <volume_name>
```
Restores all files onto the disk, where <tape_device> is the name of
the tape device and <volume_name> is the name of the disk volume.
***Note**: the <tape_device> is F02UTAPE or F17UTAPE*

b.   EJECT the tape, allowing for safe removal.

```
> ET <tape_device>
```

c.   Exit the DISKUT environment

```
> QUIT ALL
```

Note: If circumstances will not allow the non-datafilled CM load file to be
restored onto disk, a back-up procedure is available which will allow the
mate CM to be loaded "direct from tape." This back-up procedure will take
longer to complete than if the loadmate is completed direct from disk.

5.1.2 Procedure 2 - Pre-load Message Switch

ATTENTION: *Do not perform this procedure if the Message Switch was pre-loaded during the PM update process (refer to the appropriate Peripheral Module Software Release Document).*

Note: If scheduled for a "same to same" PCL application (for example: LEC00015 to LEC00015), the operating company may choose not to pre-load the Message Switch as long as the present MS load was maintained patch-current.

CAUTION
Before loading the MS verify that PM loading is complete according to the *Peripheral Module Software Release Document.*
When applicable, this includes the ENET and MS firmware loads on the MS multi-port cards (NT9X17).

1　　**Site/ACT** Ensure there are no MS mismatch logs before starting this procedure.

> MAPCI;MTC;MS

Look for a "**.**" under all the MS cards. If no "**.**" appears, determine the cause and fix the fault, or contact your next level of support.

2　　List the disk volume onto which the MS and CM load files were previously restored (see Procedure 1).

a.　　> DISKUT
　　　　> LF <**volume_name**>
　　　　Where <volume_name> is the name of the disk volume that contains the files.

b.　　Verify the MS load files on the disk volume are the ones that were provided with the final shipment of tapes.

3　　At the MS level of the MAP, determine which MS contains the SLAVE clock. (Look for "slave" under the CLOCK field.)

> MAPCI;MTC;MS

4　　Busy the MS with the SLAVE clock.

> BSY <**ms#**>
Where <ms#> is 0 or 1.

—continued—

Procedure 2
Pre-load Message Switch (continued)

5   LOADMS <**ms#**> <**filename**>
Where <filename> is the name of the MS load file listed above in step 2.

> YES   *{for confirmation}*

If the load fails, determine the cause of failure, fix the fault(s) and repeat
the LOADMS command.

---

6   When loading is complete perform an out-of-service test on the MS.

> TST <**ms#**>   *{on the OOS MS}*

Ensure the test passes with no faults. Determine the cause for any failure,
fix the fault(s), and repeat the test.

CAUTION
Do not proceed unless NO faults are reported.
Replace faulty cards if necessary, and repeat the test. Contact site
supervisor if the test fails repeatedly.

---

7   Return the MS to service.

> RTS <**ms#**>   *{not OOBAND!}*

---

8   Wait 5 minutes to ensure the clocks are stable and to allow the hardware
audit to run. Both MS units should be in-service.

---

9   Switch MS clock mastership.

> SWMAST

---

10   Monitor MS logs for 10 minutes to ensure stability.

---

11   Repeat steps 4 through 9 to update the load on the other MS unit.

---

12   QUIT out of the MAP level.

> QUIT MAPCI

This page intentionally blank.

6 Site responsibilities the day of the software delivery

Complete this section on the day of the ONP. Site personnel should have the following procedures completed before the Applicator (software delivery engineer) contacts the site to begin the scheduled ONP.

6.1 Procedures

6.1.1 Procedure 1 - Day zero checklist

1 **Site** Verify that all pre-application activities are complete. This includes the site preparation procedures, TABAUDIT, and Restore CM and MS load files.

2 Verify the ONP start time. Either Nortel Networks and/or the operating company established this start time during the site preparation phase. To verify this time refer to the software delivery site-ready reports or contact your next level of support. If requesting a change to the start time contact your Nortel Networks regional customer representative.

3 Verify front-end stability by ensuring the last REX test passed.

4 Take an office IMAGE and back it up to tape. Store the tape copy of the office IMAGE for at least 30 days following the ONP.

5 Ensure you have defined and tested the *Test Call Scripts*. The test call plan must be ready *before* activation of the new software load. For guidelines refer to Appendix C.

6 Patches and process files downloaded for the ONP must remain where they are. Do not erase these files.

7 Check for a **SOC file** "<clli>_SCF" or "<clli>$SCF" in SFDEV (or download device). If a SOC file is present, copy the file to a disk drive (or tape).

   Note: For information on installing the RTU (right-to-use) SOC password file, refer to the *Software Optionality Control User's Manual* (NTP 297-8991-900).

—continued—

Procedure 1
Day zero checklist (continued)

8   Verify SFDEV is cleared of all unnecessary files. (This is to clear storefile space for ONP work.)

9   Ensure no peripheral hardware or software changes, including retrofits, extensions or maintenance activities, will be in progress during the ONP. Any affected hardware must be made INB (installation busy), in both the host and remote offices.

Note: Recently removed hardware must have all associate software removed as well. Peripheral hardware that is not in the inservice or offline state may jeopardize the ONP.

6.1.2 Procedure 2 - Run DATADUMP

CAUTION
Allow sufficient time to run the DATADUMP.
Depending on the size of the office, DATADUMP could run for 8
hours or more. Failure to allow sufficient time may impact the
application start time.

---

1   **Site/ACT** Run DATADUMP to output important switch information. Keep
this information for future reference.

    a.   `> LOGUTIL;STOPDEV <`**printer**`>`
        Where <printer> is an available printer to be used for recording. This
        makes sure the logs are stopped on the device.

        `> LEAVE`

    b.   `> RECORD START ONTO <`**printer**`>`

    c.   `> BCSUPDATE;DATADUMP`

        When DATADUMP is completed:

        `> QUIT`

    d.   `> RECORD STOP ONTO <`**printer**`>`

6.1.3 Procedure 3 - FX voice and data

1 **Site** Ensure there will be uninterrupted communication with the Applicator during the ONP. Nortel Networks recommends using Foreign Exchange (FX) voice and data lines for this purpose.

- *Two dialup ports* (in addition to any X.25 ports) are required for the ONP— one dialup is used for the active terminal (controlling the AutoONP procedure) and the other is used for the trace device (tracing AutoONP events). Nortel Networks recommends one dialup reside on IOC 0 (or IOM 0), and the other on IOC 1 (or IOM 1).

- *One reliable voice number* is required for the ONP.

Note: Foreign Exchange directory numbers are recommended for both voice and data lines. The ONP switch of activity (SWACT) will not totally disable call processing on the DMS. However, should a problem occur **all contact with the office might be lost if FX voice and data lines are not provided**.

---

2 Ensure *two usernames and passwords* are provided for the ONP. Both should have a COMCLASS, PRIVCLASS, STACKSIZE, and PRIORITY sufficient to perform the ONP. The following settings are recommended: COMCLASS-ALL, PRIVCLASS-ALL, STACKSKZE-10000, and PRIORITY-4.

---

3 At the established ONP start time the operating company is responsible for providing the Applicator access to the office on two ports. If not provided to Nortel Networks in advance, be prepared to furnish all of the necessary information for this task (dialup numbers, usernames, passwords, etc.).

Note: It is highly recommended that access to the office be via direct connection modem devices that require no manual intervention. Using direct dialups is preferred over the various security dialup configurations such as "datakits" or "defender modems." Should the software delivery engineer lose contact with the office during SWACT, the datakits or defender modems will require more time accessing the DMS, prolong office recovery times, and extend any potential service degradation. If access to the office is not via direct dialups, the operating company is responsible for providing all of the required information (pin #, passcodes, destinations, etc.) to the Applicator at the start of the ONP. The operating company is also responsible for ensuring both dialup ports are completely operational before starting the ONP. If necessary, test both dialup ports designated for the ONP.

> ### CAUTION
> **Failure to provide working and reliable dialups may cause problems during the ONP. Failure to provide <u>two</u> dialups will jeopardize the software upgrade.**

6.1.4   Procedure 4 - Network management control

> *ATTENTION: If necessary, contact your Network Maintenance support for assistance with these steps.*

If Network Management code blocking is active before an ONP, the code blocking must be restored after the ONP is complete.

1   **Site/ACT** Make a full list of all active code controls before the ONP to aid in the restoration of code blocking.

```
> MASSCALL LIST CGAP ACODE ALL
```
This will give a full list of CODE CONTROLS which are ACTIVE.

---

2   The code blocking must be restored after the ONP is complete. Make arrangements with Network Maintenance personnel for assistance.

6.1.5 Procedure 5 - Preserving logs over ONP

Special logs (suppressed logs or logs with a threshold) may be set in
LOGUTIL on a per-site basis. However, unless these logs are datafilled in
table LOGCLASS, the settings will not be automatically restored in the new
load.

1   **Site/ACT** Set up special logs (suppressed/thresholded) in table LOGCLASS
so that they will be automatically restored after SWACT.

    a.   Determine which logs have suppressed/threshold settings that are
desired to be kept on the new load.

```
> LOGUTIL
> LISTREPS SPECIAL

> QUIT
```

    b.   Determine whether these logs are already suppressed/threshold in
TABLE LOGCLASS.

```
> TABLE LOGCLASS
> LIS ALL (THRESHOLD NE '0')
> LIS ALL (SUPPRESS NE 'N')
```

    c.   Change LOGCLASS tuples to reflect the settings as seen in the
LISTREPS output.

```
> RWOK ON
> POS <log_name>
> CHA <threshold or suppress> <value or Y>
```

        `> YES`   *{for confirmation}*

Repeat for all intended tuple changes, then

```
> QUIT
```

7 AutoONP procedure

7.1 General.

The automated one night process (AutoONP) is designed to automate many of the steps required for the One Night Process (ONP) procedure.

AutoONP can be used if the from-side <u>CM software level is at least </u>Base07 and higher, including CSP06 loads ("CSP" is communications software platform). AutoONP is supported in STP offices if the from side CM software level is at least Base08 and higher.

<u>ATTENTION</u>: If the from side CM software level is not at least CSP06 and higher (or STP4.0 and higher), <u>do not</u> use this document to perform the software upgrade. Refer to earlier versions of NTP 297-8991-303 (11.03 or older) to perform the software upgrade using manual BCSUPDATE steps.

AutoONP utilizes about 60 steps required to perform a software upgrade. Most steps are fully automated. Less than 20 steps will require some form of manual interaction. Most of these are just confirmations, prompting the user before continuing a critical step.

AutoONP maintains a list of steps to execute. These steps are executed in sequence. Whenever a step fails or requires user response, the process stops, the user responds to the problem and then types "GO" to continue until all steps have been executed.

A driver process executes the steps. It receives messages from the CI to continue execution (GO, CONTINUE or RESUME) or to execute a specific step (RUNSTEP).

In order to allow the process to handle configuration data (such as the name of the trace device and loadmate image), a set of environment variables are maintained to store this data. Environment variables are defined in the set up environment variables step and their values are required by the steps executed by the AutoONP process.

7.2 Special features

How to insert/delete/modify steps

To allow customization of the software upgrade, AutoONP lets the user change the steps that are normally performed. Commands are available to insert, delete, or otherwise modify the AutoONP steps.

Use the INSERT command to add a new step or copy an existing step into another location in the step list.

REMOVE will remove any pause or step you have previously added.

OVERRIDE will override the execution of a step.

The PAUSE command is used to pause the process.

Use of the BULLETINS file

The BULLETINS file is maintained by Nortel Networks Global Software Services and is used to provide *as much automation as possible when performing the application bulletins and workarounds*. Since application bulletins and workarounds will vary depending on the "from and to" software loads, it is recommended that the BULLETINS file and all bulletins and workarounds be reviewed before starting the AutoONP. When required, bulletins and workarounds should be followed and manually executed during the AutoONP.

IMPORTANT: The BULLETINS file is a critical file that must be downloaded to SFDEV for execution during the AutoONP.

- Step DOWNLOAD_FILES, towards the beginning of the AutoONP process, will remind the user to download the BULLETINS file (along with other required files). If desired, print a hard copy of the BULLETINS file and review the file contents.
- Step READ_BULLETINS will read (that is, execute) the BULLETINS file during the AutoONP.

CAUTION: If this file is missing from SFDEV, or if it is named incorrectly, the AutoONP will fail. For assistance with the BULLETINS file, contact the Global Software Services hotline for your market.

For further information on how to write and maintain the AutoONP BULLETINS file refer to the "AutoONP BULLETINS file guide" section.

Using the CANCEL command

The CANCEL command is used to cancel the software upgrade and halt the execution of the SWUPGRADE process at any time during the AutoONP. This command reverts all SWUPGRADE steps and returns the switch to its original state.

Getting help on AutoONP steps

The SWUPGRADE increment is used to perform the AutoONP. At any time within this increment you may type HELP for a list of the commands available. Also, the HELP command has options to obtain information about a command syntax, specific step, or variable.

HELP displays a brief description of the SWUPGRADE increment and a list of the available CI commands.

HELP <swupgrade command> displays a brief description and syntax of the command.

HELP STEP <step> displays a brief description of a step's functionality.

HELP VAR <variable> displays a brief description and the current value of the variable.

For additional information on SWUPGRADE commands, see section "SWUPGRADE summary" in Appendix A.

7.3 AutoONP procedure steps

7.3.1 Procedure 1 – CM/SLM AutoONP procedure steps

Note: For XA-Core AutoONP procedure steps, refer to Procedure 2.

Begin this procedure at the established ONP start time. To verify the start time refer to the software delivery site-ready reports or contact your next level of support.

ATTENTION: *If the from side CM software level is not at least CSP06 and higher (or STP4.0 and higher), do not use this document to perform the software upgrade. Refer to earlier versions of NTP 297-8991-303 (11.03 or older) to perform the software upgrade.*

IMPORTANT: Certain steps or commands are valid only on certain software loads. Such dependencies are noted by the from side CSP level. For example, the term "CSP07-09" means valid when upgrading from CSP07 through CSP09; while "CSP10->" means valid when upgrading from CSP10 and higher.

AutoONP steps are performed by the Applicator (App) on the Active side terminal unless indicated otherwise in bold type at the start of a step. In this procedure "ACT" or "INACT" refers to the Active side and Inactive side CM processor, respectively, on which to perform an action.

---

1   **Site and App** Contact the control center (if required) and the site on the voice phone and connect to two dialups. Verify one dialup port is on IOC 0 (or IOM 0) and the other is on IOC 1 (or IOM 1).
Connect login devices: "ACT_terminal" (ACT) and "Trace_device" (INACT)

---

2   **App** On the primary terminal device (designated "ACT_terminal") <u>login</u> and, if applicable, set LOGINCONTROL.

  a.   <break>

  ```
  ?LOGIN                                    {system response}
  Enter username and password
  ```

  > <**username**> <**password**>

  or   > <**username**>
  > <**password**>

  b.   Obtain the IOC/IOM device and user information as follows.

  > **bcsupdate;device**
  > **quit**

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

c. The site is responsible to provide _users_ and _devices_ with properties sufficient to perform the ONP. Following are recommended settings for each user/device.

- _User Priority_ is _4_

- _User Stack Size_ is at least _10000_

- _User Privilege Class_ is _ALL_

- _ComClass_ is _ALL_

- _OpenForceout_ is _N._ If not, note original status and enter:

    > **logincontrol** <**device**> **openforceout false**

- _MaxIdleTime_ is _Forever_. If not, note original status and enter:

    > **logincontrol** <**device**> **maxidletime forever**

d. At the second terminal device designated as the "Trace_device" repeat substeps a, b and c (above).

e. At the Trace_device make a note of the device name.

    Note: When necessary, the Trace_device will be used to login on the Inactive side load and make data changes. In order to login on the INACT side, you will need to know the Trace_device name.

f. Since SWUPGRADE displays messages on the Trace_device, it is necessary to sleep the Active prompt on the Trace_device in order to more clearly observe the output messages. On the Trace_device enter the following command:

    > **sleep 240 mins**

g. On the "ACT_terminal" check system logs to verify processor stability. Use LOGCHECK or open logs manually (TRAP, INIT, SWER, CM, SLM, MM, and CMSM).

    > **bcsupdate;logcheck**
    > **quit**

    Investigate any log that indicates an office stability problem. If necessary, contact your next level of support. Do not continue if any log indicates an office stability problem.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

3 <u>Locate patches</u> that were downloaded for the software upgrade. Inactive (mate) side patching is automatic, however the name of the device(s) containing the patches will be input as an environment variable.

Table PADNDEV on the Active side normally points to the device containing the downloaded mate patches. These patches can also reside in SFDEV.

> **table padndev;list all**
> **leave**

Verify the downloaded patches are located where expected, and make a note of the device name(s) where the patches actually reside.

IMPORTANT: The device name(s) will be used during step SETUP_ENV_VARS for environment variable PADNDEVS.

4 Verify both Message Switch (MS) units are loaded correctly with the same load level and release according to the PM Software Release Document.

At CI:

> **remlogin ms 0**
> **imagename**
Observe the load name listed and verify correct.

> **remlogout**

> **remlogin ms 1**
> **imagename**
Observe the load name listed and verify correct.

> **remlogout**

CAUTION
If the Message Switch is not loaded correctly escalate immediately.
Incorrect MS loads will cause subsequent AutoONP processes to fail and will jeopardize the software upgrade.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

5 Locate the non-datafilled CM load file (either tape or disk volume).

a. If loadmating from disk, list the files on the SLM disk volume with the non-datafilled CM load file.

IMPORTANT: Ensure the non-datafilled CM load file is on the Inactive side CM/SLM.

> **diskut**
> **lv**   *{lists all volumes on SLM 0 and SLM 1}*
> **lf S00D<volume>**   *{or S01D<volume>}*
Where <volume> is the disk volume with the CM load file.

Make note of the name of the non-datafilled CM load file and volume for later use in environment variable LDMATE_IMAGE.

b. If loadmating from disk, set the boot pointer now:

> **sbf** <**volume**> <**filename_cm**> **cm** <**entry#**>
Where <volume> is the SLM disk volume with the CM load file.
<filename_cm> is the non-datafilled CM load filename.
<entry#> is the next available entry in ITOC, or 9.

Examples:
    > sbf S01DUNIT1 LET013_CM cm 9
    > sbf S01DIMAGE LEC015_S1 cm 9

c. If loadmating from tape, place the tape cartridge with the non-datafilled CM load file into the <u>Inactive CM side</u> SLM.

CAUTION: Do not use the INSERT TAPE (IT) command during this step.

d. Ensure there are no open files on the Inactive CM side disk volume.

CAUTION: Open files will cause the LDMATE DIRECT command to fail.

Use the following commands to identify any open files:

> **diskut**
> **lv**
> **quit**

Close (or ROTATE) any open files on the Inactive CM side disk volume before continuing. <u>Do not</u> attempt to close active DIRP/billing (AMA) files. Instead, from the DIRP MAP level ROTATE any active billing subsystems such as AMA, SMDR, OCC, and CDR.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

To locate and rotate active billing files:

> > **mapci;mtc;iod;dirp**
> > **rotate <file_name>**
> > **quit all**

*Note***:** For assistance with closing active files contact your next level of support.

*REMINDER***:** After loadmate is complete, restore any files that were closed on the Inactive CM side disk drive. Also, ensure all IOD alarms are cleared at the MAP level.

---

6 On the ACT_terminal type the following.

a. > **swupgrade cm**
SWUPGRADE:

b. Press <return> twice to display the current office header message. Make note of the header message for use in environment variable: INACT_LOGMSG.

---

7 Obtain a list of available CI commands. Type *HELP* to list all of the commands. For any command listed type *HELP <command>* to get a description of the command.

IMPORTANT: Notice the correct use of the CANCEL command to terminate (abort) the AutoONP:

1. If the old software load is still active, type CANCEL on the Active side to abort the CM upgrade process.

2. To revert or SWACT back to CSP07 (and higher) software loads, type CANCEL on the new load.

3. Do not use the CANCEL command on the new software load to revert back to CSP06 loads. If necessary to revert back to a CSP06 load, manual steps must be performed to abort the AutoONP (refer to the "Revert and Abort procedures" section).

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

8   Start the AutoONP.

> **start**

Note: The START command is only used to initially start the process. To continue after the process has paused, use GO, RESUME or CONTINUE.

---

9   Set up environment variables

Step: SETUP_ENV_VARS

Step SETUP_ENV_VARS prompts the user for values and sets the environment variables necessary to perform the SWUPGRADE. Enter the requested values on the ACT_terminal.

This step causes the upgrade process to pause until the user enters GO, RESUME or CONTINUE.

IMPORTANT: Certain variables are valid only for certain software loads. Such dependencies are noted by from-side CSP level. For example, the term "CSP09-12" means valid when upgrading from CSP09 through CSP12; while "CSP11->" means valid for from-side CSP11 and higher.

Note: Values consisting of more than one word must not be enclosed in quotes. If they are the quotes will be considered as part of the word and the variable will either be set to an incorrect value or not set at all.

Default values are in square brackets. [Some variables have no default]

If a variable has a default value assigned, the default is the recommended value unless indicated otherwise. To accept a default value press <return> without entering a value. To enter different values, type the value and press <return>.

If an illegal command string is entered a Help screen will appear.

Variables can be changed at any time using the SET command. However, once a value is used, it will have no further effect.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Variable: **TRACE_DEVICE** [there is no default]

Holds the device name on which output messages are displayed. Changing the value of this variable causes output to be redirected to the new device.

Recommended setting is a device other than the terminal currently logged onto. The Trace_device should be close to your ACT terminal.

Value: <trace device name> - a string, such as MAP.

Note: When typing the Trace_device name, be certain it is entered correctly.

Manual check: When prompted enter the Trace_device name, then on that device you should see the message, "This device is selected for TRACing."

Variable (CSP06-07): **ACT_TERMINAL** [default is terminal you are on]

Holds the name of the device that will be used to enter all SWUPGRADE commands.

Recommended setting is the device you are logged onto.

Value: <active device name> - a string, such as MAP.

Variable: **PRINTER** [default is SINK (no printout)]

Holds the name of the printer on which output messages are recorded. The printer echoes all output sent to the trace device. Changing the value of this variable causes the recording to be directed to the new device.

Recommended setting is to add a printer name for this variable. Default is SINK which causes no printout.

Value: <printer name> or SINK

Where <printer name> is a device datafilled in table TERMDEV.

eg1: LP021 - Record from the trace device onto LP021.
eg2: SINK - Do NOT record.

Variable: **LOGS** [default logs are TRAP SWERR CM CMSM MS NET ENET]

Holds the names of the logs to be considered by the CHECK_LOGS step. More than one log can be specified by entering log names separated by a blank.

Recommended settings is the default: logs TRAP SWERR CM CMSM MS NET ENET.

Value: <log name list> - one or more log names.

eg1: CM - Checks for cm logs on both sides of the switch and displays a message if cm logs are recorded.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

eg2: TRAP SWERR – Checks for traps and swerrs on both sides of the switch and displays a message if traps or swerrs are recorded.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: **INACT_CM**

Holds the number of the Inactive CM to be loaded with the new image.

Value: <cm number> - 0 or 1

Variable: **INACT_LOGMSG**

Holds the office header message (OFCLOG) that will be displayed on the Inactive (mate) CM.

Manual check: When requested to enter the value for the office header message, type the header message exactly as it was noted above (step 6b)—*except* update the new job order number, software level, and current date. *Example:*
```
*** H1234 Office_name LEC00015 10/FEB/2001 ***
```

Value: <log msg> - a character string

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: **LDMATE_IMAGE** [default is TAPE]

Holds the device, filename, and method used by the LOAD_MATE step.

If loadmating from SLM disk:

Locate the disk volume with the non-datafilled CM load file and verify the boot pointer was set (refer to step 5).

IMPORTANT: Ensure the non-datafilled CM load file is on Inactive side CM/SLM.

Value: <device> <filename_cm> <method>

Where <device> is the SLM disk volume and <filename_cm> is the non-datafilled CM load file name and <method> is the method to load the image. Options are either DIRECT or VIAMS. (Direct is the preferred method.)

Example:
S01DUNIT1 LET015_CM DIRECT - Loads CM load file LET015_CM from device S01DUNIT1 using the DIRECT method.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

If loadmating from SLM tape:

Value: <device>

Where <device> is TAPE.

Example: TAPE - Loads the CM load file from the Inactive SLM tape drive.

Variable: **PADNDEVS** [default is device name SFDEV]

Holds the name of the device(s) (up to 3) that will be searched for patches during the CM software upgrade. Step SET_PADNDEV temporarily datafills table PADNDEV with these devices for the benefit of APPLY_PATCHES.

Value: <device name list> - up to 3 device names.

REMINDER: The value for this variable was determined above in step 3.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: **TABXFR_STOPIF** [default is stopif = 1]

Determines the threshold for the maximum number of failed tables allowed before halting TABXFR.

Recommended settings is the default: stopif = 1.

Value: <stopif> or UNLIMITED

Where <stopif> is an integer between 0 and 4,294,967,295.
and UNLIMITED is equivalent to no limit

eg1: 1024 - TABXFR halts after 1024 table failures.
eg2: UNLIMITED - TABXFR never stops

Variable: **TABXFR_LIMIT** [default is limit = 25]

Determines the threshold for the maximum number of tuple failures allowed before halting TABXFR.

Recommended setting is the default: limit = 25

Value: <n> or UNLIMITED

Where <n> is an integer between 0 and 4,294,967,295
and UNLIMITED is equivalent to no limit.

eg1: 3380 - TABXFR halts after 3380 tuple failures.
eg2: UNLIMITED - Unlimited number of failures for one table is allowed.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Variable: **TABXFR_INITIAL_PRINT** [default is 30 SECS]

Determines the time interval for printing a single message containing the current table name.

Recommended settings is the default: 30 SECS.

Value: FOREVER or <0 to 255> {SECS, MINS, HRS}

eg1: 5 MINS - The message is printed after the first 5 minutes.
eg2: 30 SECS - The message is printed after the first 30 seconds.
eg3: FOREVER - The message is never printed.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: **TABXFR_INTERVAL_PRINT** [default is FOREVER]

Determines the time interval for printing regular table transfer status messages. This is particularly useful for large tables.

Recommended settings is: 30 SECS.

Value: FOREVER or <0 to 255> {SECS, MINS, HRS}

eg1: 5 MINS - The message is printed every 5 minutes.
eg2: 30 SECS - The message is printed every 30 seconds.
eg3: FOREVER - The message is never printed.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable (CSP06-10): **SPMS_OPTION** [default is NONE]

Holds the date or number of days to generate the SPMS (Switch Performance Monitoring system) indices.

Recommended settings is the default: NONE.

The options are:

DATE <[YY]YY [M]M [D]D> - Display the SPMS indices for that date as well as the averages for the current and previous months.

DAYS <N> - Display the SPMS indices for the previous N days as well as the averages, where N is an integer between 0 and 30. If N is not specified it is defaulted to 1.

NONE - Do not generate the SPMS report.

eg1: DATE 1999 10 15 - Display indices for 15/10/99 and averages.
eg2: DATE 99 2 1 - Display indices for 01/02/99 and averages.
eg3: DAYS 1 - Display previous day's indices and averages.
eg4: DAYS 0 - Display the averages for the current and previous months.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Variable (STP offices only): **AUTODUMP** [default is YES]

Determines if AUTODUMP is enabled on the upgraded load.

Recommended setting for this variable is NO.

The options are:

YES – the user has indicated that AUTODUMP is enabled on the upgraded load.

NO – the user has indicated that AUTODUMP is not enabled on the upgraded load.

Note: An ACTIVE VOLUME must be datafilled in table IMAGEDEV to use AUTODUMP.

Variable: **DRTIME_REPORT** [default is NO]

Determines if the DRTIME report should be printed before SYNC. (DRTIME provides statistics on the TABXFR process. Normally this is not used unless this information is requested.)

Recommended setting is the default: NO.

The options are:

YES - Print the report.

NO - Do not print the report.

Variable: **DUMP_NEW_LOAD** [default is YES]

Determines if an image dump of the new load should be taken

Recommended setting for this variable is NO.

The options are:

YES - AutoONP will dump the new image.

NO - AutoONP will not dump the new image.

Note: If the value of this variable is set to NO, the Site is responsible for manually taking an image of the new load immediately after the AutoONP is complete.

Variable (CSP09): **DIRP_BILLING_HAS_BEEN_POLLED** [default is YES]

Reminds the user that DIRP BILLING should have been polled by the billing center. Failure to do so can result in lost billing records should any of the billing devices become corrupted during the upgrade process.

Recommended setting for this variable is NO.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

A number of questions based on the current DIRP data configuration are asked if the value of this variable is YES. This variable and DIRP's current configuration are used to determine the course of actions during the following DIRP preparation and recovery steps:

> PRESWACT_DIRP_AND_BILLING
> SEND_DIRP_INFO_TO_INACTIVE
> RECOVER_DIRP_AND_BILLING

The options are:

> YES – the user has indicated that the required polling has been done.

> NO – the user has indicated that polling is either not desired or is not applicable during this upgrade.

Variable (CSP10-CSP11): **AUTOMATED_DIRP_AND_BILLING** [default is YES]

Recommended setting for this variable is NO. The DIRP and billing preparation should be done manually when prompted in step PRESWACT_DIRP_AND_BILLING.

Note: Only users experienced with DIRP billing configuration for ONP should set this variable to YES. Notice that automated DIRP billing currently works only for primary billing on DISK or TAPE. For any other DIRP devices the manual procedure steps must be performed.

Asks the user if they want the automated DIRP and billing steps. If the user answers YES, then the user is asked to indicate whether DIRP billing has been polled. The user is reminded that DIRP BILLING should have been polled by the billing center. Failure to do so can result in lost billing records should any of the billing devices become corrupted during the upgrade process.

A number of questions based on the current DIRP data configuration are asked if the user indicated that DIRP billing has been polled. This variable and DIRP's current configuration are used to determine the course of actions during the following DIRP preparation and recovery steps:

> PRESWACT_DIRP_AND_BILLING
> SEND_DIRP_INFO_TO_INACTIVE
> RECOVER_DIRP_AND_BILLING

The options are:

> YES – the user has indicated that automated DIRP billing is chosen.

> NO – the user has indicated that automated DIRP billing is not desired or is not applicable during this upgrade.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

10   When all environment variables have been input, a full list of all the values is displayed. Please check the values of all variables, and if necessary use the SET command to make corrections.

> *Example:*
> > set logs 'trap swerr'
> > set trace_device map

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Environment variables can be displayed at any time by typing on the ACT_terminal:
(CSP06-08) > **swupgrade;disp vars**
(CSP09)   > **swupgrade;disp var all**
(CSP10->)   > **swupgrade;disp var <variable_name>**

11   After environment variables have been entered and checked, continue as follows:

<u>Observe</u> the Trace_device to monitor the automatic process.

<u>When prompted</u> enter any additional commands on the ACT_terminal.

<u>Manual input</u> On the Trace_device watch for the message, "SWUPGRADE process has paused." This means your input is required. To resume after a PAUSE, type GO on the ACT_terminal.

To continue the SWUPGRADE process now, type GO on the ACT_terminal:

> **go**

Notes:
The STATUS command may be used at any time to display SWUPGRADE status information:
  > **swupgrade;status**

A list of STEPS (needed and completed) can be displayed at any time by typing:
  > **swupgrade;disp steps**

If needed, you can QUIT the SWUPGRADE increment:
  > **quit**

To re-enter the SWUPGRADE increment and continue, type:
  > **swupgrade;go**

—**continued**—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

The remaining steps are automatically executed by the SWUPGRADE process. Manual intervention is needed only when requested by display on the Trace_device terminal.

Step: SETUP_DIRP_AND_BILLING (CSP07-08)

SETUP_DIRP_AND_BILLING performs the preparation for the other three DIRP billing steps: PRESWACT_DIRP_AND_BILLING, SEND_DIRP_INFO_TO_INACTIVE, and RECOVER_DIRP_AND_BILLING.

This step asks a number of questions (on the ACT terminal) based on the current DIRP data configuration to set up site-specific variables to prepare DIRP and billing subsystems for the CM switch of activity.

This step causes the upgrade process to pause until the user enters GO, RESUME or CONTINUE. When resumed, this step will display current information for DIRP billing subsystems on the Trace_device.

Step: NOTIFY_USERS

NOTIFY_USERS sends a message to all users logged in to the switch, notifying them that an ONP has started and to advise them not to use SERVORD and other interfering commands. A list of all logged-in users is then printed to the trace device.

Step: SET_LOGIN_BANNER (CSP08->)

SET_LOGIN_BANNER replaces the existing login banner file with SWUPGRADE login banner. This banner will be displayed upon successful login on any terminal.

Step: DOWNLOAD_FILES

DOWNLOAD_FILES reminds the user to download the optional application and BULLETINS files before continuing. This step causes the upgrade process to pause until the user enters GO. Print a hard copy of the BULLETINS file if desired to review the contents of the file.

Step: READ_BULLETINS

READ_BULLETINS executes the BULLETINS file downloaded by step DOWNLOAD_FILES. This causes the CI commands contained within the file to be executed.

Step: VERIFY_DEVICES

VERIFY_DEVICES verifies all devices used during the CM software upgrade process are setup correctly. Currently, the checks are if ENHANCED_PASSWORD_SECURITY is on, then LOGINCONTROL settings MAX_IDLE_TIME and OPEN_CONDITION_LOGOUT, should be set to FOREVER, and N respectively.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Step: PRINT_PARMS_AND_SAVE

PRINT_PARMS_AND_SAVE prints the values of the office PARMs
NODEREXCONTROL, LCDREX_CONTROL,
GUARANTEED_TERMINAL_CPU_SHARE and
DUMP_RESTORE_IN_PROGRESS to the trace device and saves the
values for use by step RESTORE_PARMS.

Step: CHECK_LOGS_1

"CHECK_LOGS" steps will display a count of logs on the ACTive side,
INACTive side, or both. The type of logs displayed is determined by the
input to environment variable**: LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also
display full trap information using the commands shown below.

Note: The Trace_device terminal response for step CHECK_LOGS_1 "new
logs on the ACTIVE CM since the start of the process" is only true for offices
upgrading from CSP10 (and higher) loads. For offices upgrading from
CSP09 (and lower) loads this response is not true. For those offices the log
count displayed is actually for all of the logs in the Logutil buffer. Offices
upgrading from CSP09 (and lower) have to identify which logs have
occurred since the start of the AutoONP process, and only display the
contents of those logs and traps.

Additional information for displaying logs

For CSP10 (and higher) use the DISPLAY LOG command to display the
content of logs on either side. Otherwise, use Logutil commands.

> **ACT**
> > **display log <log name> <n *or* ALL> [Act or Inact]***{still in SWUPGRADE}*
> *Displays a number (**n**) of the most recent records of the specified log,*
> *either for the Active or Inactive side. (The default is: INACT)*

> *Example:*
> > display log CM 5 inact
> *This shows the five most recent CM logs in the mate side log buffer.*

All offices can use Logutil commands to show the contents of logs, as
follows.

To display the content of logs on the Active side:

> **ACT**
> > **quit all**
> > **logutil**
> > **open <log name> [<log number>]**
> *repeat for each Active-side log*
> > **quit**   *{to leave logutil increment}*

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Example:
> logutil
> open CM 119

To display the full trap information for each trap listed for the Active side:

ACT
> **quit all**
> **logutil**
> **open trap**
> **trapinfo <trap_number>**
> back all
repeat for each trap
> **quit**   *{to leave logutil increment}*

To display the content of logs on the Inactive side:

To login to the mate side processor, on the ACT_terminal, type:

ACT
> **mateio**
> **matelog <Trace_device>**

On the Trace_device type the username and password:

INACT
Enter username and password   *{mate-side response}*
Mate>

Usernames and passwords for the Inactive non-datafilled CM load are:
admin admin
operator operator

Mate> **logutil**
Mate> **open <log name> [<log number>]**
repeat for each mate-side log
> **quit**   *{to leave logutil increment}*

Example:
Mate> logutil
Mate> open MS 314

Also display the full trap information for each trap listed for the Inactive side:

INACT
Mate> **logutil**
Mate> **open trap**
Mate> **trapinfo <trap_number>**
Mate**> back all**
repeat for each trap
Mate> **quit**   *{to leave logutil increment}*
                —continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

When done listing logs on the mate side, logout of the mate side:

INACT
Mate**> logout**

IMPORTANT: Do not logout of the Active side on either the ACT or Trace_device terminals. *(On the Trace_device the Active side prompt should still be sleeping.)*

To re-enter swupgrade and continue, type:

ACT
> **swupgrade;go**

Step: STOP_JOURNAL_FILE

STOP_JOURNAL_FILE queries the journal file status and then closes and stops the journal file. This is equivalent to executing the commands:
QUERY JF ALL;CLOSE JF ACTIVE;JF STOP

Step: PRINT_MS_LOADS

PRINT_MS_LOADS prints the load names of each MS. The applicator is then asked to verify that the loads are correct before the process continues.

Note: The displayed information corresponds to the BASE layer of the MS load. The BASE layer is always one level higher than the corresponding CSP load level. For example, MS-U16BF would be the correct MS load for an office upgrading to a CSP15 load.

Step: ALIGN_CM_AND_SLM

ALIGN_CM_AND_SLM checks that the CM specified in environment variable INACT_CM is in fact inactive. If not, the user is prompted to SWACT the CM or change the value of the variable.

Step: DISABLE_PRSM_AUDIT_ACT (CSP10->)

This step attempts to stop and delay all PRSM processes that are bound into the PRSM scheduler.

Step: CMIC_LINKHITS_CHECK (CSP08->)

CMIC_LINKHITS_CHECK checks the integrity of the CMIC links on the Active side.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

12   **INACT** The following step will pause before dropping sync on the CM. Once ready to drop sync, the user must <u>JAM the inactive CM (inactive-side RTIF)</u> before the step can continue.

Step: DROP_SYNC

DROP_SYNC will instruct the user to obtain permission to drop sync on the CM, then pause to wait for the user to enter GO to continue. When the user enters GO, the process will then drop sync on the CM.

Step: LOAD_MATE

LOAD_MATE loads the Inactive CM with the new software image from either tape or disk. Reads LDMATE_IMAGE variable to determine which device to use in loading the new software image.

Step: MATELINK_RTS

MATELINK_RTS verifies that the matelink is in-service and if not, attempts to return the link to service.

Step: UPDATE_STEPS_AND_VARS

UPDATE_STEPS_AND_VARS is executed after the Inactive CM is loadmated with the new software. It ensures that the AutoONP step list is built on the Inactive CM, that step information is updated on the Active CM and that environment variable values are transferred to the Inactive CM. Essentially, this step ensures that the Active and Inactive CM AutoONP data is in sync.

Step: CHECK_NEW_LOAD

CHECK_NEW_LOAD attempts to verify that the load on the Inactive CM is a fresh, undatafilled load. This is done by checking that table TERMDEV only has a single tuple.

Step: SET_DATE_AND_LOGMSG

SET_DATE_AND_LOGMSG transfers the Active side date and time to the Inactive and sets the log message to the value of variable INACT_LOGMSG.

Step: CHECK_LOGS_2

Displays a count of logs in the Logutil buffer since the start of the process on the Active side, Inactive side, or both. The type of logs displayed is determined by the input to environment variable: **LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands. (See "Additional information for displaying logs" in step 11.)

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Step: CLEAR_TRAPINFO

CLEAR_TRAPINFO clears all traps on the Inactive CM before the process proceeds. This makes it easier to differentiate between old and new traps that may be caused by subsequent steps.

Step: TRANSFER_DEVICES_INFO

TRANSFER_DEVICES_INFO copies the information saved in VERIFY_DEVICES from the Active cpu to the Inactive cpu.

Step: TRANSFER_PARM_VALUES

TRANSFER_PARM_VALUES copies the parameters saved in step PRINT_PARMS_AND_SAVE from the Active to the Inactive CM.

Step: RESET_BCSUPDATE_STEPS (CSP06-08)

RESET_BCSUPDATE_STEPS resets all BCSUPDATE steps to needed.

Step: MS_CHECK

MS_CHECK ensures that the current MS loads are compatible. with the Inactive CM load.

Step: DISABLE_AUTOIMAGE

DISABLE_AUTOIMAGE disables the auto image dump process which could potentially interfere with the ONP process.

Step: SET_OFFICE_TUPLES

SET_OFFICE_TUPLES retains the current state of office parameters NODEREXCONTROL, LCDREX_CONTROL and GUARANTEED_TERMINAL_CPU_SHARE and then sets both NODEREXCONTROL and LCDREX_CONTROL to OFF and GUARANTEED_TERMINAL_CPU_SHARE to its maximum value.

Step: SET_PADNDEV

SET_PADNDEV saves the current tuples in the PADNDEV table. It then deletes all tuples from the table. Lastly, it adds the tuples contained in the PADNDEVS environment variable.

Step: SEND_PATCHES

SEND_PATCHES sends all applicable patches required to patch the Inactive load before the software upgrade process can proceed.

Step: APPLY_PATCHES

APPLY_PATCHES messages the Inactive side to start the PRSM process which applies the patches that were sent to the Inactive side by the SEND_PATCHES step.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Step: CHECK_LOGS_3

Displays a count of logs in the Logutil buffer since the start of the process on the Active side, Inactive side, or both. The type of logs displayed is determined by the input to environment variable: **LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands. (See "Additional information for displaying logs" in step 11.)

Step: RESTORE_PADNDEV

RESTORE_PADNDEV restores table PADNDEV to contain the exact tuples it had before step SET_PADNDEV was executed.

Step: TABLE_TRANSFER

TABLE_TRANSFER executes the TABXFR process to transfer all data from the old to the new software load.

If TABXFR errors are encountered perform step 13; otherwise, skip the following step and continue with step TABXFR_REPORT.

13 If any tuple fails to restore on the INACT side, TABXFR will stop (depending on STOPIF and LIMIT) and display the headtable/subtable position in error.

For any "failed" table, compare the ACT side (old) and INACT side (new) tuple(s) in error to identify and correct the problem. Some data differences should be expected as ordered, others might be in error and need to be corrected (if needed, contact the Translations Engineer or your next level of support).

Note: "****Table is recursive" means a tuple in this table is referenced by another table. The referenced table must be transferred before the original table can be successfully datafilled. Normally no action is required to transfer a recursive-dependent table, since TABXFR will loop back as needed to datafill all recursive tables.

a. Whenever it is necessary to access the INACT (mate) side to correct an error, first *verify a flashing A1* on the Inactive processor.

b. Before logging into the mate side and if not already done, on the Trace_device, *sleep the Active side prompt* by typing the following command.

> **sleep 240 mins**

REMINDER: All terminal commands and responses from the INACT side must have the cursor preceded by 'Mate>'.
(Otherwise, the '>' means it is the Active side.)

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Examples:

>   Active side processor (from-side software load)

Mate>   Inactive side processor (to-side software load)

c.   To login to the INACT side processor, on the ACT_terminal type:

> **mateio**
> **matelog <Trace_device>**

On the Trace_device type the username and password:

Enter username and password   *{mate-side response}*

Mate> **admin admin**

Note: Usernames and passwords for the Inactive non-datafilled CM load are:

admin admin
 or
operator operator

d.   Once errors have been corrected, logout of the INACT side processor and continue:

Mate> **logout**

IMPORTANT: Do not logout of the Active side processor on either the ACT_terminal or Trace_device (on the Trace_device the Active side prompt should still be sleeping).

To continue the SWUPGRADE process type GO on the ACT_terminal:

> **swupgrade; go**

Step: TABXFR_REPORT (to CSP09 and higher)

TABXFR_REPORT displays a summary report of all table failures to the trace device once TABXFR has completed.

Step: CHECK_LOGS_4

Displays a count of logs in the Logutil buffer since the start of the process on the Active CM, Inactive CM, or both. The type of logs displayed is determined by the input to environment variable: **LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands. (See "Additional information for displaying logs" in step 11.)

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Step: START_PRESWACT

START_PRESWACT initiates the PRESWACT process to prepare the office for a switch of activity (SWACT) to the new load. START_PRESWACT executes a series of steps and displays them on the Trace_device. The individual steps can be displayed and if necessary manually executed. When START_PRESWACT finishes, all of the PRESWACT steps will be displayed with a status of "Complete."

If during START_PRESWACT a step fails to complete, the process will stop and give additional information. Use the information given to investigate and correct the problem. All START_PRESWACT steps must be completed before SWACT.

If any step fails to complete and START_PRESWACT stops, make corrections and continue START_PRESWACT by typing:

> **swupgrade;go**

Note: START_PRESWACT will re-execute the failed step and continue.

Example printout of a failed START_PRESWACT step:

```
CHECK_ISN_PMS                      executing
Inactive CM BCS number is 44
MS 0                     load is 44 BM   - Passed
MS 1                     load is 44 BM   - Passed
ENET Plane 0 Pair 0      load is 44 BM   - Passed
ENET Plane 0 Pair 1      load is 44 BM   - Passed
LIM Unit 0               load is 44 BM   - Passed
LIM Unit 1               load is 44 BM   - Passed
NIU 0 Unit 0             load is 44 BM   - Passed
NIU 0 Unit 1             load is 44 BM   - Passed
LIU7 0                   load is 43 BM   -
Failed
LIU7 1                   load is 43 BM   -
Failed

Please load all failed PMs with correct load.
Correct above error(s) and re-execute this step.

CHECK_ISN_PMS                      not complete
Investigate and correct if needed.
Step START_PRESWACT failed.
The SWUPGRADE process has paused. Enter GO.
```

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

14 Read the following notes while START_PRESWACT executes.

Note 1: START_PRESWACT step TABLE_DELTA will display the "differences" (changes, additions, deletions) between the old and new software loads for the following engineering tables: OFCENG, OFCSTD, OFCVAR, OFCOPT, DATASIZE, TCAPTRID, and OPTCTL. If a table has differences, START_PRESWACT will stop after displaying the OLD/NEW, ADDED, or DELETED tuples, and will give a message indicating an "error" due to the mismatch.

Example printout of TABLE_DELTA step:

```
TABLE_DELTA                     executing

Table OFCSTD
   Tuples do not match.  Old Count = 83.  New Count = 81
**ADDED   AUDVLOWFREQ 120

**OLD     BCS_NUMBER 39 0
**NEW     BCS_NUMBER 42 0

**OLD     CPSTACKSIZE 1504
**NEW     CPSTACKSIZE 2000

**ADDED   E911_NPD_TO_NPA_CONV_IN_EFFECT N

**DELETED CONSOLE_SILO_CHARS 510
**DELETED CONSOLE_SILO_RECORDS 20
**DELETED CUG_REGION 0
**DELETED MTCBASE_EXTRAMSG 1024
** Total mismatches are 8.

TABLE_DELTA                     not complete
Investigate and correct if needed.
Step START_PRESWACT failed.
The SWUPGRADE process has paused. Enter GO.
```

For any table with differences, compare the OLD/NEW, ADDED, and DELETED tuple(s) to identify and correct any errors. The engineering table changes are requested in advance of the ONP and are documented in market-specific "PARM" application files (such as FEATDATA). The office PARM information can be used to verify if the TABLE_DELTA step is correct. If any differences are found in error, correct them before continuing with the START_PRESWACT step.

IMPORTANT: The DELTA command has been enhanced beginning with CSP10 loads to take into account any requested office PARM changes made by the FEATDATA file during TABXFR. If the office is upgrading from CSP10 (and higher) loads, please refer to the "Delta command syntax" section in Appendix A to review the enhancements.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Make changes if required, then continue START_PRESWACT by typing:

> **swupgrade;go**

Note 2: START_PRESWACT step TABLE_DELTA may also display an "informative" message without stopping. When this occurs, it is not considered an error; rather, it is an indication that something is different in the old and new PCLs. Note the information displayed, and at a convenient stopping point, compare the old and new loads to understand and validate the differences.

As an example:

```
TABLE_DELTA              executing
:
Table ATTCONS Checksum incorrect, keys match
:
TABLE_DELTA              complete
```

Note 3: START_PRESWACT steps STATUSUPDATE or STATUSCHECK may not complete due to the status of certain devices on the Active or Inactive side.

As an example:

```
STATUSUPDATE              executing

*** All devices on active side must be either ***
*** OK or OFFLINE before proceeding.          ***

The following devices are NOT OK and NOT OFFLINE:

Node Device
---- ------
     LINK 2 on MPC 1
     LINK 2 on MPC 5

STATUSUPDATE              not complete
Investigate and correct if needed.
Step START_PRESWACT failed.
The SWUPGRADE process has paused. Enter GO.
```

In order to complete the steps successfully, it will be necessary to change the state of the device(s) identified to either IN-SERVICE (OK) or OFFLINE.

The operating company is responsible for changing Active side device states. The Applicator is responsible for Inactive side device states. If Active side devices were changed (for example, OFFLINE), it will also be the operating company's responsibility to restore these devices after the ONP is complete.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

For the above example, to determine what IOC # and CARD # the MPC is on, enter the following command string:

> **> mapci nodisp;mtc;iod;listdev mpc**
> **> quit all**

Make changes if required, then continue START_PRESWACT by typing:

> > **swupgrade;go**

Note 4: A <u>hardware conversion</u> (such as LTC/LTCI) scheduled concurrently with the PCL upgrade will require certain table changes, additions or deletions. START_PRESWACT step TABLE_DELTA will detect a difference between the old and new data, and will stop, indicating a mismatch. If this is the case, confirm the table differences are due to the conversion and verify the new data is correct.

Make changes if required, then continue START_PRESWACT by typing:

> > **swupgrade;go**

---

15 The PRESWACT_DIRP_AND_BILLING step <u>may require manual action</u>.

<div style="border:1px solid black; padding:1em;">

CAUTION
Failure to prepare AMA can cause loss of billing data over the SWACT.

</div>

Step: PRESWACT_DIRP_AND_BILLING

PRESWACT_DIRP_AND_BILLING instructs the user to prepare the DIRP billing devices for the CM switch of activity. This step causes the upgrade process to pause until the user enters GO, RESUME or CONTINUE.

IMPORTANT: This step may require manual action. When prompted to prepare DIRP and billing, complete the appropriate "PRESWACT DIRP and billing" procedure(s) in Appendix B before continuing with the SWUPGRADE process.

Note: Offices equipped with SDM do not require any manual action.

After completing the appropriate "PRESWACT DIRP and billing" procedure(s), continue by typing:

> **> swupgrade;go**

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Step: PRINT_SPMS_INDICES

PRINT_SPMS_INDICES dumps the SPMS indices to the trace device.

---

16   Twice the user will be asked to confirm a readiness to SWACT.

First confirmation - the GET_FIRST_SWACT_AGREEMENT step (below) reminds the user that preparation for SWACT will begin shortly. That step causes the software upgrade process to pause until the user enters GO.

Step: GET_FIRST_SWACT_AGREEMENT

GET_FIRST_SWACT_AGREEMENT determines the type of CC warm SWACT (NORESTARTSWACT or RESTARTSWACT) that will be executed and informs the user. This step also reminds the user that the preparation for SWACT will begin shortly. This step causes the upgrade process to pause until the user enters GO, RESUME or CONTINUE.

Once the first SWACT agreement is confirmed, the user will be prompted to complete several final steps to prepare for SWACT.

If a delay of longer than 15 minutes is anticipated before SWACT, the user should wait until all preparations are complete before continuing with GO.

Step: PREPARE_FOR_SWACT

PREPARE_FOR_SWACT reminds the user to perform the following:

1. If there are any remote applications (DNC) connected to this switch, inform the operating company to have them log out before the software upgrade process can continue.

2. Instruct The operating company personnel to contact the high profile customers to ensure that they are not in emergency call processing mode and inform them that a SWACT will occur shortly.

3. Disable all polling and periodic testing.

4. Ensure no further activity is performed on the DPP and inform the downstream processing center.

5. Dump all special logs so they can be restored on the new load after POSTSWACT.

This step causes the upgrade process to pause until the user enters GO, RESUME or CONTINUE.

A FINAL_SWACT_CONFIRMATION is requested just before SWACT.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Step: STATUSCHECK

STATUSCHECK performs a status hardware check on the Active side to
ensure devices are in one of the following states: OK, OFFLINE, or
UNEQUIPPED. The step also compares the hardware status of the two
sides.

Step: CHECK_LOGS_5

Displays a count of logs in the Logutil buffer since the start of the process on
the Active side, Inactive side, or both. The type of logs displayed is
determined by the input to environment variable: **LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also
display full trap information using Logutil commands. (See "Additional
information for displaying logs" in step 11.)

Step: SEND_DIRP_INFO_TO_INACTIVE (CSP07->)

The SEND_DIRP_INFO_TO_INACTIVE step sends the information
gathered during the SWUPGRADE setup to the Inactive new load before
SWACT. This data includes the user-supplied information gathered during
that step's interactive question-and-answer session as well as DIRP volume
disposition at the time PRESWACT_DIRP_AND_BILLING is run.

Any subsequent DIRP interventions occurring between the sending of the
data and SWACT will cause the date to be unreliable and will adversely
affect the RECOVER_DIRP_AND_BILLING step after SWACT.

Step: TRANSFER_TIMINGS

TRANSFER_TIMINGS updates the step information on the Inactive CM just
before the SWACT. It also transfers the step log data, which is used by step
PRINT_SWUPGRADE_REPORT.

REMINDER: Verify that high profile customers are not in emergency call
processing mode. Inform them that the SWACT will occur momentarily.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

CAUTION
The next step will cause a CC Switch of Activity (SWACT)

Step: SWACT

SWACT reminds the user to release the jam on the Inactive CM before the step can continue. FINAL_SWACT_CONFIRMATION requests a final agreement to switch activity just before performing the actual CC warm SWACT. Confirmation is secured by entering GO. Then the SWACT proceeds. The type of SWACT performed depends on the office configuration and is displayed in both SWACT confirmation requests. The result of this step is the final activation of the new load.

ATTENTION: Monitor the progress of the Switch of Activity on the Trace_device throughout the execution of this step.

IMPORTANT: If necessary to revert (SWACT back) to the old load, perform the appropriate procedure in the "Revert and Abort procedures" section.

REMINDER: Notice the correct use of the CANCEL command to terminate (abort) the AutoONP:

1. If the old software load is still Active, type CANCEL on the Active side to abort the CM upgrade process.

2. To revert or SWACT back to CSP07 (and higher) software loads, type CANCEL on the new load.

3. Do not use the CANCEL command on the new software load to revert back to CSP06 loads. If necessary to revert back to a CSP06 load, manual steps must be performed to abort the AutoONP (refer to the "Revert and Abort procedures" section).

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

17 If upgrading to CSP10 or higher, after SWACT the SWUPGRADE user is automatically logged in on the Active terminal and automatically resumes execution of the upgrade steps. The auto login is only supported if the SWUPGRADE user is logged in on a terminal device (TTY or CONSOLE) and is not supported for other devices such as CMAP. Datakit access may require a manual login.

Note: Auto login is supported for a NORESTARTSWACT only.

If upgrading to CSP09 or lower, manually login and continue the AutoONP as follows:

a. After the SWACT, login on the new load by typing the following on the Active terminal:

<break>

?LOGIN   *{system response}*
Enter username and password

> <**username**> <**password**>

or   > <**username**>
> <**password**>

b. Continue the AutoONP to conclusion (see Important note below):

> **swupgrade;go**

IMPORTANT: Instruct the operating company to perform a 911 test call. If the test call fails to complete contact Nortel Networks Emergency Recovery immediately. **Do not continue**. If the test call is successful continue the SWUPGRADE process and ensure the following actions take place:

a)   System recovery of all DIRP and billing subsystems,
b)   System recovery of any critical alarms,
c)   Operating Company begins Test Calls, and
d)   System logs are monitored for office stability.

The remaining steps are automatically executed by the SWUPGRADE process. Manual intervention is needed only when requested by display on the Trace_device terminal.

Step: DISPLAY_DATE

DISPLAY_DATE displays the date and time on the new Active side.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Step: RECOVER_DIRP_AND_BILLING (CSP10->)

RECOVER_DIRP_AND_BILLING requires the user to verify recovery of all billing subsystems after SWACT and to set up standby and parallel recording devices where applicable.

IMPORTANT: This step may require <u>manual action</u>. When prompted to recover DIRP and billing, complete the appropriate "Recover DIRP and billing" procedure(s) in Appendix B before continuing with the SWUPGRADE process.

After completing the appropriate "Recover DIRP and billing" procedure(s), continue by typing:

> swupgrade;go

Step: PERFORM_TEST_CALLS_1 (to CSP11->)

PERFORM_TEST_CALLS_1 reminds the user to execute the test calls that were identified ahead of time and documented in the test file scripts by operating company personnel. For more detail, see Appendix C.

Step: START_POSTSWACT

START_POSTSWACT initiates the POSTSWACT process and executes a series of steps and displays them on the Trace_device. The individual steps can be displayed and if necessary manually executed.

Note: START_POSTSWACT will pause after step BEGIN_TESTING. The remaining steps will be executed during FINISH_POSTWACT.

If during START_POSTSWACT a step fails to complete, the process will stop and give additional information. Use the information given to investigate and correct the problem. After making corrections, continue START_POSTWACT by typing:

> **swupgrade;go**

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Step: RECOVER_DIRP_AND_BILLING (CSP06- 09)

RECOVER_DIRP_AND_BILLING requires the user to verify recovery of all billing subsystems after SWACT and to set up standby and parallel recording devices where applicable.

__IMPORTANT__: This step may require <u>manual action</u>. When prompted to recover DIRP and billing, complete the appropriate "Recover DIRP and billing" procedure(s) in Appendix B before continuing with the SWUPGRADE process. After completing the appropriate "Recover DIRP and billing" procedure(s), continue by typing GO on the Active terminal.

Step: RESTART_OLD_LOAD

RESTART_OLD_LOAD ensures that the old load is ready to take over in the event of an ABORTSWACT. In order to check if the newly Active load is ready, this step attempts to establish mate communication with the mate side. This might cause a restart on the old load.

Step: DRTIME_PRINT

DRTIME_PRINT will optionally print the DRTIME report on the trace device. The DRTIME report is provided if the DRTIME_REPORT variable is set to YES during the setup phase.

Step: PERFORM_TEST_CALLS_2 (to CSP11->)

PERFORM_TEST_CALLS_2 reminds the user to execute the test calls that were identified ahead of time and documented in the test file scripts by the operating company personnel. For more detail, see Appendix C.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Step: PERFORM_TEST_CALLS

> PERFORM_TEST_CALLS reminds the user to execute the test calls that
> were identified ahead of time and documented in the test file scripts by the
> operating company personnel. For more detail, see Appendix C.

CAUTION
Do not SYNC the switch until Test Calls are successfully completed.
Only after the operating company has accepted the new load and given
the go-ahead should the CM be put back in SYNC. The
SWUPGRADE process will pause and ask if you are ready to SYNC.
<u>Do not</u> confirm this step until ready.

Step: SYNC_SWITCH

> SYNC_SWITCH will first prompt the user for confirmation and wait until
> RESUME, GO, or CONTINUE is entered. Once confirmation is received, the
> step will bring the CM processors back into SYNC mode.

Step: FINISH_POSTSWACT

> FINISH_POSTSWACT executes the remaining POSTSWACT steps after
> step BEGIN_TESTING. The individual steps can be displayed and if
> necessary manually executed. When FINISH_POSTSWACT completes, all
> of the POSTWACT steps will be displayed with a status of "complete."

> If during START_POSTSWACT a step fails to complete, the process will
> stop and give additional information. Use the information given to
> investigate and correct the problem. After making corrections, continue
> FINISH_POSTWACT by typing:

> > **swupgrade;go**

Step: RESTORE_PARMS

> RESTORE_PARMS restores the values of the office PARMs
> NODEREXCONTROL, LCDREX_CONTROL,
> GUARANTEED_TERMINAL_CPU_SHARE and
> DUMP_RESTORE_IN_PROGRESS which were saved in step
> PRINT_PARMS_AND_SAVE.

—continued—

Procedure 1
CM/SLM AutoONP procedure steps (continued)

Step: RESET_DEVICES

RESET_DEVICES verifies all devices used during the CM software upgrade process are set to their original values. The LOGINCONTROL settings MAX_IDLE_TIME and OPEN_CONDITION_LOGOUT may have been changed in step VERIFY_DEVICES and the original values transferred to the restore side by step TRANSFER_DEVICES_INFO. These device values should be set to their original values.

Step: COMPLETE_NEW_LOAD_INIT

COMPLETE_NEW_LOAD_INIT prints a series of messages to remind the site to perform some manual items after POSTSWACT is completed.

Step: RESET_LOGIN_BANNER (CSP08->)

RESET_LOGIN_BANNER erases the SWUPGRADE login banner.

Step: SET_AUTODUMP_RETAIN (CSP06)

SET_AUTODUMP_RETAIN reads environment variable AUTODUMP to determine if AUTODUMP RETAIN should be enabled. Please refer to the AUTODUMP command for more details on AUTODUMP RETAIN.

Step: DUMP_NEW_LOAD

DUMP_NEW_LOAD will use the AUTODUMP process to dump the newly Active CM load. If the DUMP_NEW_LOAD variable has been set to YES during the SETUP phase for SWUPGRADE, AUTODUMP must be turned on and there must be an ACTIVE volume datafilled in IMAGEDEV.

Note: If the DUMP_NEW_LOAD variable was set to NO, the Site is responsible for manually taking an image of the new load immediately after the AutoONP is complete.

Step: RESUME_REX_TEST (CSP10->)

RESUME_REX_TEST will resume all REX test(s) previously suspended by PRESWACT step SET_MATE_TUPLES.

Step: START_JOURNAL_FILE

START_JOURNAL_FILE re-establishes recording onto the journal file.

—continued—

**Procedure 1
CM/SLM AutoONP procedure steps (continued)**

Step: PRINT_SWUPGRADE_REPORT

> PRINT_SWUPGRADE_REPORT generates and prints a summary report of the software upgrade. The report contains information on the steps performed, their timings and return codes.

> Description of the report columns:

> Step name: The name of the step.

> Since last: Elapsed time between previous and this step.

> Start: Start time of this step.

> Elapsed: The time it took to execute this step.

> Return code: The final status of the step after completion.

>> Possible values for the return code are:

>>> success: Step executed successfully.

>>> pause_fail: The step failed and was re-executed.

>>> pause_repeat: The step needed to be executed more than once.

>>> pause_skip: The step caused a pause but was not re-executed.

Step: STOP_RECORD

> STOP_RECORD stops the recording onto the printer designated by the PRINTER variable.

Step: UPGRADE_COMPLETE

> The user must enter GO to continue and reset the SWUPGRADE process. When complete, this step reminds the user to quit the SWUPGRADE increment.

---

18   Quit the SWUPGRADE increment.

**IMPORTANT**: Do not quit until the following message is displayed:

…*Process complete. You may now QUIT out of the SWUPGRADE increment. Finished step UPGRADE_COMPLETE.*

> > **quit**

This completes the CM/SLM AutoONP procedure.

7.3.2 Procedure 2 – XA-Core AutoONP procedure steps

Note: For CM/SLM AutoONP procedure steps, refer to Procedure 1.

Begin this procedure at the established ONP start time. To verify the start time refer to the software delivery site-ready reports or contact your next level of support.

IMPORTANT: Certain steps or commands are valid only on certain software loads. Such dependencies are noted by the from side CSP level. For example, the term "CSP10-13" means valid when upgrading from CSP10 through CSP13 while "CSP11->" means valid when upgrading from CSP11 and higher.

The AutoONP steps are executed by the Applicator (App) on the Active terminal. A trace device is used to trace the background AutoONP processes.

The major steps in the AutoONP process and the time to complete each step is as follows:

```
   Split   Load    Table    PreSWACT  SWACT      PostSWACT    Un-Split
           Mate   Transfer

     |     |_____|            |          |           |
     |     |       |       |            |          |           |
     |                                  |          |           |

  1-5 min    maximum 4 hours      5-10 min  15 min to 4 hrs  20-30
```
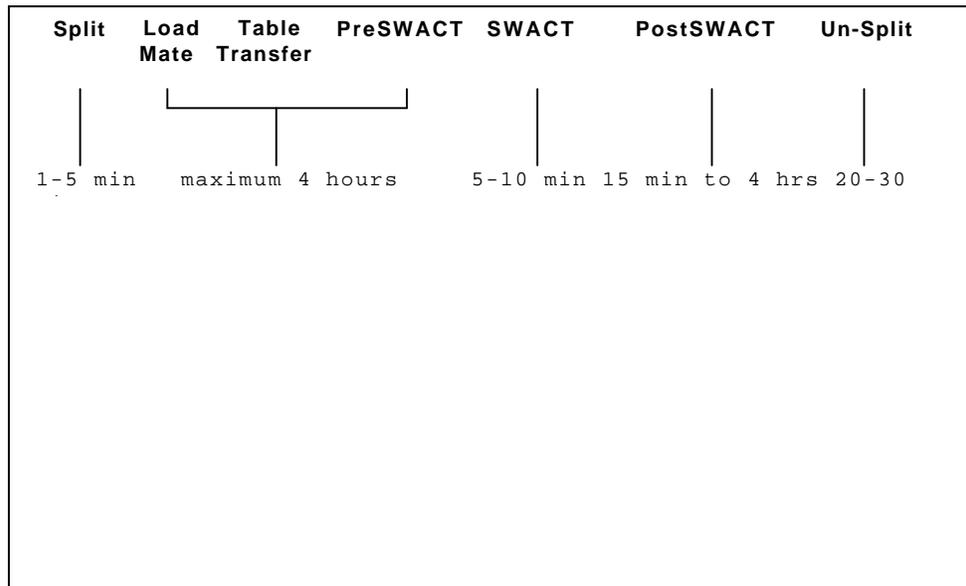
—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

1   **Site and App** Contact the control center (if required) and the site on the voice phone and connect to two dialups.

Connect login devices: ACT_terminal (ACT) and Trace_device (INACT).

2   On the primary terminal device (designated ACT_terminal) login.

a.   <**break**>

```
?LOGIN
Enter username and password
```

> <**username**> <**password**>

or   > <**username**>
      > <**password**>

b.   Obtain the device and user information as follows.

> **bcsupdate;device**
> **quit**

c.   The site is responsible to provide users and devices with properties sufficient to perform the ONP. Following are recommended settings for each user/device.

• *User Priority* is *4*

• *User Stack Size* is at least *10000*

• *User Privilege Class* is *ALL*

• *ComClass* is *ALL*

• *OpenForceout* is *N*. If not, note original status and enter:

> **logincontrol** <**device**> **openforceout false**

• *MaxIdleTime* is *Forever*. If not, note original status and enter:

> **logincontrol** <**device**> **maxidletime forever**

d.   At the second terminal device designated as the "Trace_device" repeat substeps a, b and c (above).

e.   At the Trace_device make a note of the device name.

Note: When necessary, the Trace_device will be used to login on the Inactive side load and make data changes. In order to login on the INACT side, you will need to know the Trace_device name.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

> **f.** Since SWUPGRADE displays messages on the Trace_device, it is necessary to sleep the Active prompt on the Trace_device in order to more clearly observe the output messages. On the Trace_device enter the following command:
>
>> \> **sleep 240 mins**
>
> **g.** On the ACT_terminal check system logs to verify processor stability. Use LOGCHECK or open logs manually (TRAP, INIT, SWER, XAC, ENET, MM, and MS).
>
>> \> **bcsupdate;logcheck**
>> \> **quit**
>
>> Investigate any log that indicates an office stability problem. If necessary, contact your next level of support. Do not continue if any log indicates an office stability problem.

---

3 Locate patches that were downloaded for the Software Upgrade. Patching is automatic, however, the name of the device(s) containing the patches will be input as an environment variable.

Table PADNDEV normally points to the device containing the downloaded patches. These patches can also reside in SFDEV.

> \> **table padndev;list all**
> \> **leave**

Verify the downloaded patches are located where expected, and make a note of the device name(s) where the patches actually reside.

IMPORTANT: The device name(s) will be used during step SETUP_ENV_VARS for environment variable PADNDEVS.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

4   Verify both Message Switch (MS) units are loaded correctly with the same
load level and release according to the PM Software Release Document.

At CI:

> **remlogin ms 0**
> **imagename**
Observe the load name listed and verify correct.

> **remlogout**

> **remlogin ms 1**
> **imagename**
Observe the load name listed and verify correct.

> **remlogout**

<div style="border:1px solid black; padding:1em;">

CAUTION
If the Message Switch is not loaded correctly escalate immediately.
Incorrect MS loads will cause subsequent AutoONP processes to fail and
may jeopardize the software upgrade.

</div>

---

5   Locate the non-datafilled CM load file (either tape or disk volume).

a.   If loadmating from disk, list the files on the disk volume with the non-
datafilled CM load file.

> **diskut**
> **lv**   *{lists all volumes on F02L and F17L}*
> **lf F02L<volume>**   *{or F17L<volume>}*
Where <volume> is the disk volume with the CM load file.

Make note of the name of the non-datafilled CM load file and volume
for later use in environment variable LDMATE_IMAGE.

b.   If loadmating from tape, place the tape cartridge with the non-
datafilled CM load file into a tape drive. Make note of the tape drive
(F02UTAPE or F17UTAPE) for use in environment variable
LDMATE_IMAGE.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

6   On the ACT_terminal type the following.

   a.   > **swupgrade xac**
            SWUPGRADE: *{system response}*

   b.   Press <return> twice to display the current office header message.
            Make note of the header message for use in environment variable
            INACT_LOGMSG.

7   Obtain a list of available CI commands. Type *HELP* to list all of the
         commands. For any command listed type *HELP <command>* to get a
         description of the command.

         IMPORTANT: Notice the correct use of the CANCEL command to
         terminate (abort) the AutoONP:

          1. If the old software load is still Active, type CANCEL on the
          ACT_terminal to abort the SWUPGRADE process.

          2. To revert or SWACT back to the old software load, type CANCEL on the
          new load (refer to the "Revert and Abort procedures" section).

8   Start the AutoONP.

         > **start**

         Note: The START command is only used to initially start the process. To
         continue after the process has paused, use GO, RESUME or CONTINUE.

—**continued**—

Procedure 2
XA-Core AutoONP procedure steps (continued)

9   Set up environment variables

Step: SETUP_ENV_VARS

Step SETUP_ENV_VARS prompts the user for values and sets the environment variables necessary to perform the SWUPGRADE. Enter the requested values on the ACT_terminal.

This step causes the upgrade process to pause until the user enters GO, RESUME or CONTINUE.

IMPORTANT: Certain variables are valid only for certain software loads. Such dependencies are noted by from-side CSP level. For example, the term "CSP10-13" means valid when upgrading from CSP10 through CSP13; while "CSP11->" means valid for from-side CSP11 and higher.

Note: Values consisting of more than one word must not be enclosed in quotes. If they are the quotes will be considered as part of the word and the variable will either be set to an incorrect value or not set at all.

Default values are in square brackets. [Some variables have no default]

If a variable has a default value assigned, the default is the recommended value unless indicated otherwise. To accept a default value press <return> without entering a value. To enter different values, type the value and press <return>.

If an illegal command string is entered a Help screen will appear.

Variables can be changed at any time using the SET command. However, once a value is used, it will have no further effect.

Variable: **TRACE_DEVICE** [(no default)]

Holds the device name on which output messages are displayed. Changing the value of this variable causes output to be redirected to the new device.

Recommended setting is a device other than the terminal currently logged onto. The Trace_device should be close to your ACT terminal.

Value: <trace device name> - a string, such as MAP.

IMPORTANT: When typing the Trace_device name, be certain it is entered correctly.

Manual check When prompted enter the Trace_device name, then on that device you should see the message, "This device is selected for TRACing."

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Variable: **PRINTER** [default is SINK (no printout)]

> Holds the name of the printer on which output messages are recorded. The printer echoes all output sent to the trace device. Changing the value of this variable causes the recording to be directed to the new device.
>
> ***Recommend setting is to add a printer name for this variable. Default is SINK which causes no printout.***
>
> Value: <printer name> or SINK
>
> *Where <printer name> is a device datafilled in table TERMDEV.*
>
> eg1: LP021 - Record from the trace device onto LP021.
> eg2: SINK - Do NOT record.

Variable: **LOGS** [default logs are TRAP SWERR XAC MS NET ENET]

> Holds the names of the logs to be considered by the CHECK_LOGS step. More than one log can be specified by entering log names separated by a blank.
>
> ***Recommended setting is the default: logs TRAP SWERR XAC MS NET ENET.***
>
> Value: <log name list> - one or more log names.
>
> eg1: XAC - Checks for XA-Core (xac) logs and displays a message if xac logs are recorded.
> eg2: TRAP SWERR – Checks for traps and swerrs and displays a message if traps or swerrs are recorded.
>
> *Note:* Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: **INACT_LOGMSG** [(no default)]

> Holds the office header message (OFCLOG) that will be displayed on the Inactive (mate) side.
>
> <u>Manual check</u> When requested to enter the value for the office header message, type the header message exactly as it was noted above see step 6b)—***except*** update the new <u>job order number</u>, <u>software level</u>, and <u>current date</u>. *Example:*
> ```
> *** H1234 Office_name LEC00015 10/FEB/2001 ***
> ```
>
> Value: <log msg> - a character string
>
> *Note:* Use quotes ONLY with the SET command, if the value consists of more than one word.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Variable: **LDMATE_IMAGE** [(no default)]

Holds the device and filename used by the SPLIT_AND_LOADMATE step.

If loadmating from XA-Core disk:

Locate the disk volume with the non-datafilled CM load file (see step 5).

Value: <volume_name> <filename_cm>

Where <volume_name> is the disk volume and <filename_cm> is the non-datafilled CM load filename.

Example:
F02LIMAGE LET015_CM - Loads the CM load file LET015_CM from disk volume F02LIMAGE.

If loadmating from XA-Core tape:

Value: <device>

Where <device> is the tape device (F02UTAPE or F17UTAPE).

Example:
F17UTAPE - Loads the CM load file from tape drive F17UTAPE.

Variable: **PADNDEVS** [default is device name SFDEV]

Holds the name of the device(s) (up to 3) that will be searched for patches during the XA-Core software upgrade. Step SET_PADNDEV temporarily datafills table PADNDEV with these devices for the benefit of APPLY_PATCHES.

Value: <device name list> - up to 3 device names.

REMINDER: The value for this variable was previously determined in step 3.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: **TABXFR_STOPIF** [default is stopif = 1]

Determines the threshold for the maximum number of failed tables allowed before halting TABXFR.

Recommended setting is the default: stopif = 1.

Value: <stopif> or UNLIMITED

Where <stopif> is an integer between 0 and 4,294,967,295.

eg1: 1024 - TABXFR halts after 1024 table failures.
eg2: UNLIMITED - TABXFR never stops.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Variable: **TABXFR_LIMIT** [default is limit = 25]

Determines the threshold for the maximum number of tuple failures allowed before halting TABXFR.

Recommended setting is the default: limit = 25.

Value: <n> or UNLIMITED

Where <n> is an integer between 0 and 4,294,967,295;
and UNLIMITED is equivalent to no limit.

eg1: 3380 - TABXFR halts after 3380 tuple failures.
eg2: UNLIMITED - Unlimited number of failures for one table is allowed.

Variable: **TABXFR_INITIAL_PRINT** [default is 30 SECS]

Determines the time interval for printing a single message containing the current table name.

Recommended setting is the default: 30 SECS.

Value: <0 to 255> {SECS, MINS, HRS} or FOREVER

eg1: 5 MINS - The message is printed after the first 5 minutes.
eg2: 30 SECS - The message is printed after the first 30 seconds.
eg3: FOREVER - The message is never printed.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: **TABXFR_INTERVAL_PRINT** [default is FOREVER]

Determines the time interval for printing regular table transfer status messages. This is particularly useful for large tables.

Recommended setting is: 30 SECS.

Value: <0 to 255> {SECS, MINS, HRS} or FOREVER

eg1: 5 MINS - The message is printed every 5 minutes.
eg2: 30 SECS - The message is printed every 30 seconds.
eg3: FOREVER - The message is never printed.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Variable: **SPMS_OPTION** [default is NONE]

Holds the date or number of days to generate the SPMS (Switch Performance Monitoring System) indices.

Recommended setting is the default: NONE.

The options are:

DATE <[YY]YY [M]M [D]D> - Display the SPMS indices for that date as well as the averages for the current and previous months.

DAYS <N> - Display the SPMS indices for the previous N days as well as the averages, where N is an integer between 0 and 30. If N is not specified it is defaulted to 1.

NONE - Do not generate the SPMS report.

eg1: DATE 1999 10 15 - Display indices for 15/10/99 and averages.
eg2: DATE 99 2 1 - Display indices for 01/02/99 and averages.
eg3: DAYS 1 - Display previous day's indices and averages.
eg4: DAYS 0 - Display the averages for the current and previous months.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: **DRTIME_REPORT** [default is NO]

Determines if the DRTIME report should be printed before SYNC. (DRTIME provides statistics on the TABXFR process. Normally this is not used unless this information is requested.)

Recommended setting is the default: NO.

The options are:

YES - Print the report.

NO - Do not print the report.

Variable: **DUMP_NEW_LOAD** [default is YES]

Determines if an image dump of the new load should be taken

Recommended setting for this variable is NO.

The options are:

YES - AutoONP will dump the new image.

NO - AutoONP will not dump the new image.

Note: If the value of this variable is set to NO, the Site is responsible for manually taking an image of the new load immediately after the AutoONP is complete.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

10   When all environment variables have been input, a full list of all the values
is displayed. Please check the values of all variables, and if necessary use
the SET command to make corrections.

> *Example:*
> > set logs 'trap swerr'
> > set trace_device map

Note: Use quotes ONLY with the SET command, if the value consists of
more than one word.

Environment variables can be displayed at any time by typing on the
ACT_terminal:

> > **swupgrade;disp var all**
> or   > **swupgrade;disp var <variable_name>**

11   After environment variables have been entered and checked, continue as
follows:

Observe the Trace_device to monitor the automatic process.

On the Trace_device watch for the message, "SWUPGRADE process has
paused." This means manual input is required. To resume after a PAUSE,
type GO on the ACT_terminal.

When prompted enter any additional commands on the ACT_terminal.

To continue the SWUPGRADE process type GO on the ACT_terminal:

> **go**

Notes:
The STATUS command may be used at any time to display SWUPGRADE
status information by typing:
> **swupgrade;status**

A list of STEPS (needed and completed) can be displayed at any time by
typing:
> **swupgrade;disp steps**

If needed, you can QUIT the SWUPGRADE increment by typing:
> **quit**

To re-enter SWUPGRADE increment and continue, type:
> **swupgrade;go**

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

The remaining steps are automatically executed by the SWUPGRADE
process. Manual intervention is needed only when requested by display
on the Trace_device terminal.

Step: NOTIFY_USERS

NOTIFY_USERS sends a message to all users logged in to the switch,
notifying them that an ONP has started and to advise them not to use
SERVORD and other interfering commands. A list of all logged-in users is then
printed to the trace device.

Step: SET_LOGIN_BANNER

SET_LOGIN_BANNER replaces the existing login banner file with
SWUPGRADE login banner. This banner will be displayed upon successful
login on any terminal.

Step: DOWNLOAD_FILES

DOWNLOAD_FILES reminds the user to download the optional application
and BULLETINS files before continuing. This step causes the upgrade process
to pause until the user enters GO. Print a hard copy of the BULLETINS file if
desired to review the contents of the file.

Step: READ_BULLETINS

READ_BULLETINS executes the BULLETINS file downloaded by step
DOWNLOAD_FILES. This causes the CI commands contained within the file
to be executed.

Step: VERIFY_DEVICES

VERIFY_DEVICES verifies all devices used during the XA-Core software
upgrade process are setup correctly. Currently, the checks are if
ENHANCED_PASSWORD_SECURITY is on, then LOGINCONTROL settings
MAX_IDLE_TIME and OPEN_CONDITION_LOGOUT, should be set to
FOREVER, and N respectively.

Step: PRINT_PARMS_AND_SAVE

PRINT_PARMS_AND_SAVE prints the values of the office parms
NODEREXCONTROL, LCDREX_CONTROL,
GUARANTEED_TERMINAL_CPU_SHARE and
DUMP_RESTORE_IN_PROGRESS to the trace device and saves the values
for use by step RESTORE_PARMS.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: CHECK_LOGS_1

The "CHECK_LOGS" steps will display a count of logs in the Logutil buffer since the start of the SWUPGRADE process on the ACTive side, INACtive side, or both. The type of logs displayed is determined by the input to environment variable: **LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also display full trap information using the commands shown below.

Additional information for displaying logs:

For CSP10 (and higher) use the DISPLAY LOG command to display the content of logs on either side. Otherwise, use the Logutil commands.

> **ACT**
> > **display log <log name> <n *or* ALL> [Act or Inact]***{still in SWUPGRADE}*
> > *Displays a number (**n**) of the most recent records of the specified log,*
> > *either for the Active or Inactive side. (The default is: INACT)*
>
> > *Example:*
> > > display log XAC 5 inact
> > > *This shows the five most recent XAC logs in the mate side log buffer.*

All offices can use Logutil commands to show the contents of logs, as follows.

To display the content of logs on the Active side:

> **ACT**
> > **quit all**
> > **logutil**
> > **open <log name> [<log number>]**
> > *repeat for each Active-side log*
> > **quit**   *{to leave logutil increment}*
>
> > *Example:*
> > > logutil
> > > open XAC

To display the full trap information for each trap listed for the Active side:

> **ACT**
> > **quit all**
> > **logutil**
> > **open trap**
> > **trapinfo <trap_number>**
> > **back all**
> > *repeat for each trap*
> > **quit**   *{to leave logutil increment}*
>
> **—continued—**

Procedure 2
XA-Core AutoONP procedure steps (continued)

To display the content of logs on the Inactive side:

Login to the mate side processor, on the ACT_terminal, type:

ACT
> **mateio**
> **matelog <Trace_device>**

On the Trace_device type the username and password:

INACT
Enter username and password   *{mate-side response}*
Mate>

Usernames and passwords for the Inactive non-datafilled CM load are:
admin admin
or
operator operator

Mate> **logutil**
Mate> **open <log name> [<log number>]**
repeat for each mate-side log
Mate> **quit**   *{to leave logutil increment}*

Example:
Mate> logutil
Mate> open MS 314

To display the full trap information for each trap listed for the Inactive side:

INACT
Mate> **logutil**
Mate> **open trap**
Mate> **trapinfo <trap_number>**
Mate**> back all**
repeat for each trap
Mate> **quit**   *{to leave logutil increment}*

When done listing logs on the mate side, logout of the Inactive side:

INACT
Mate**> logout**

IMPORTANT: Do not logout of the Active side on either the ACT or
Trace_device terminals. (On the Trace_device the Active side prompt
should still be sleeping.)

To re-enter SWUPGRADE and continue, type:

ACT
> **swupgrade;go**

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: STOP_JOURNAL_FILE

STOP_JOURNAL_FILE queries the journal file status and then closes and
stops the journal file. This is equivalent to executing the commands:
QUERY JF ALL;CLOSE JF ACTIVE;JF STOP

Step: PRINT_MS_LOADS

PRINT_MS_LOADS prints the load names of each MS. The applicator is
then asked to verify that the loads are correct before the process continues.

Note: The displayed information corresponds to the BASE layer of the MS
load. The BASE layer is always one level higher than the corresponding
CSP load level. For example, MS-U16BF would be the correct MS load for
an office upgrading to a CSP15 load.

Step: DISABLE_PRSM_AUDIT_ACT

This step attempts to stop and delay all PRSM processes that are bound
into the PRSM scheduler.

---

12   The following step will pause before splitting the XA-Core shared memory
into an ACTive and INACTive unit. When ready to enter Split mode, the
user must enter GO on the ACT_terminal to continue.

Step: SPLIT_AND_LOADMATE

SPLIT_AND_LOADMATE will instruct the user to obtain permission to split
the XA-Core shared memory, then pause to wait for the user to enter GO to
continue. When the user enters GO, the process performs the split and
loads the INACTive unit with the new XA-Core non-datafilled load file from
either tape or disk. This step reads LDMATE_IMAGE variable to determine
the device from which the new software image is to be loaded.

Step: MATELINK_RTS

MATELINK_RTS verifies that the matelink is in-service and if not, attempts
to return the link to service.

Step: UPDATE_STEPS_AND_VARS

UPDATE_STEPS_AND_VARS is executed after the Inactive side of the
split XA-Core is loadmated with the new software. It ensures that the
AutoONP step list is built on the Inactive side, that step information is
updated on the Active side and that environment variable values are
transferred to the Inactive side. Essentially, this step ensures that the Active
and Inactive sides of the split XA-Core AutoONP data are in sync.

Step: CHECK_NEW_LOAD

CHECK_NEW_LOAD attempts to verify that the load on the Inactive side of
the split XA-Core is a fresh, non-datafilled load. This is done by checking
that table TERMDEV only has a single tuple.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: SET_DATE_AND_LOGMSG

SET_DATE_AND_LOGMSG transfers the Active side date and time to the Inactive and sets the log message to the value of variable INACT_LOGMSG.

Step: CHECK_LOGS_2

Displays a count of logs in the Logutil buffer since the start of the process on the Active side, Inactive side, or both. The type of logs displayed is determined by the input to environment variable: **LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also display full trap information using the Logutil commands (see "Additional information for dispalying logs" in step CHECK_LOGS_1).

Step: CLEAR_TRAPINFO

CLEAR_TRAPINFO clears all traps on the Inactive side of the split XA-Core before the process proceeds. This makes it easier to differentiate between old and new traps that may be caused by subsequent steps.

Step: TRANSFER_DEVICES_INFO

TRANSFER_DEVICES_INFO copies the information saved in VERIFY_DEVICES from the Active to the Inactive side of the split XA-Core.

Step: TRANSFER_PARM_VALUES

TRANSFER_PARM_VALUES copies the parameters saved in step PRINT_PARMS_AND_SAVE from the Active to the Inactive side of the split XA-Core.

Step: MS_CHECK

MS_CHECK ensures that the current MS loads are compatible with the software loaded onto the Inactive side of the split XA-Core.

Step: DISABLE_AUTOIMAGE

DISABLE_AUTOIMAGE disables the auto image dump process which could potentially interfere with the ONP process.

Step: SET_OFFICE_TUPLES

SET_OFFICE_TUPLES retains the current state of office parameters NODEREXCONTROL, LCDREX_CONTROL and GUARANTEED_TERMINAL_CPU_SHARE and then sets both NODEREXCONTROL and LCDREX_CONTROL to OFF and GUARANTEED_TERMINAL_CPU_SHARE to its maximum value.

Step: SET_PADNDEV

SET_PADNDEV saves the current tuples in the PADNDEV table. It then deletes all tuples from the table. Lastly, it adds the tuples contained in the PADNDEVS environment variable.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: SEND_PATCHES

> SEND_PATCHES sends all applicable patches required to patch the Inactive load before the software upgrade process can proceed.
>
> *Note:* This could take a while depending on the number of patches.

Step: APPLY_PATCHES

> APPLY_PATCHES messages the Inactive side to start the PRSM process which applies the patches that were sent to the Inactive side by the SEND_PATCHES step.

Step: CHECK_LOGS_3

> Displays a count of logs in the Logutil buffer since the start of the process on the Active side, Inactive side, or both. The type of logs displayed is determined by the input to environment variable: **LOGS**.
>
> *IMPORTANT:* Display the contents of all logs listed. If traps exist, also display full trap information using the Logutil commands (see "Additional information for dispalying logs" in step CHECK_LOGS_1).

Step: RESTORE_PADNDEV

> RESTORE_PADNDEV restores table PADNDEV to contain the exact tuples it had before step SET_PADNDEV was executed.

Step: TABLE_TRANSFER

> TABLE_TRANSFER executes the TABXFR process to transfer all data from the old to the new software load.
>
> *If TABXFR errors are encountered perform step 13; otherwise, skip the following step and continue with step TABXFR_REPORT.*

---

13 If any tuple fails to restore on the INACT side, TABXFR will stop (depending on STOPIF and LIMIT) and display the headtable/subtable position in error. For any "failed" table, compare the ACT side (old) and INACT side (new) tuple(s) in error to identify and correct the problem. Some data differences should be expected as ordered, others might be in error and need to be corrected (if needed, contact the Translations Engineer or your next level of support).

> *Note:* "****Table is recursive" means a tuple in this table is referenced by another table. The referenced table must be transferred before the original table can be successfully datafilled. Normally no action is required to transfer a recursive-dependent table, since TABXFR will loop back as needed to datafill all recursive tables.

> **a.** Whenever it is necessary to access the INACT (mate) side to correct an error, first *verify a flashing A1* on the <u>Inactive</u> processor.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

  b.   Before logging into the INACT side and if not already done, on the Trace_device sleep the Active prompt by entering the following command:

    > **sleep 240 mins**

    REMINDER: All terminal commands and responses from the INACT side must have the cursor preceded by 'Mate>'.
    (Otherwise, the '>' means it is the Active side.)

    Examples:

     >   Active side processor (from-side software load)

     Mate>   Inactive side processor (to-side software load)

  c.   To login to the INACT side processor, on the ACT_terminal type:

    > **mateio**
    > **matelog <Trace_device>**

    On the Trace_device type the username and password:

    Enter username and password   *{mate-side response}*

    Mate> **admin admin**

    Note: Usernames and passwords for the Inactive non-datafilled CM load are:

    admin admin
     or
    operator operator

  d.   Once errors have been corrected, logout of the INACT side processor and continue:

    Mate> **logout**

  IMPORTANT: Do not logout of the Active side processor on either the ACT_terminal or Trace_device (on the Trace_device the Active side prompt should still be sleeping).

  To continue the SWUPGRADE process type GO on the ACT_terminal:

  > **swupgrade; go**

Step: TABXFR_REPORT

  TABXFR_REPORT displays a summary report of all table failures to the trace device once TABXFR has completed.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: CHECK_LOGS_4

This CHECK_LOGS step will display a count of logs in the Logutil buffer since the start of the process on the Active side, Inactive side, or both. The type of logs displayed is determined by the input to environment variable LOGS.

IMPORTANT: Display the contents of all logs listed. If traps exist, also display full trap information using the Logutil commands (see "Additional information for dispalying logs" in step CHECK_LOGS_1).

Step: START_PRESWACT

START_PRESWACT initiates the PRESWACT process to prepare the office for a switch of activity (SWACT) to the new load. START_PRESWACT executes a series of steps and displays them on the Trace_device. The individual steps can be displayed and if necessary manually executed. When START_PRESWACT finishes, all of the PRESWACT steps will be displayed with a status of "Complete."

If during START_PRESWACT a step fails to complete, the process will stop and give additional information. Use the information given to investigate and correct the problem. All START_PRESWACT steps must be completed before SWACT.

If any step fails to complete and START_PRESWACT stops, make corrections and continue START_PRESWACT by typing:

> **swupgrade;go**

Note: START_PRESWACT will re-execute the failed step and continue.

Example printout of a failed START_PRESWACT step:

```
CHECK_ISN_PMS                      executing
Inactive CM BCS number is 44
MS 0                    load is 44 BM    - Passed
MS 1                    load is 44 BM    - Passed
ENET Plane 0 Pair 0     load is 44 BM    - Passed
ENET Plane 0 Pair 1     load is 44 BM    - Passed
LIM Unit 0              load is 44 BM    - Passed
LIM Unit 1              load is 44 BM    - Passed
NIU 0 Unit 0            load is 44 BM    - Passed
NIU 0 Unit 1            load is 44 BM    - Passed
LIU7 0                  load is 43 BM    -        Failed
LIU7 1                  load is 43 BM    -        Failed

Please load all failed PMs with correct load.
Correct above error(s) and re-execute this step.

CHECK_ISN_PMS                      not complete
Investigate and correct if needed.
Step START_PRESWACT failed.
The SWUPGRADE process has paused. Enter GO.
```

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

14 Read the following notes while START_PRESWACT executes.

Note 1: START_PRESWACT step TABLE_DELTA will display the "differences" (changes, additions, deletions) between the old and new software loads for the following engineering tables: OFCENG, OFCSTD, OFCVAR, OFCOPT, DATASIZE, TCAPTRID, and OPTCTL. If a table has differences, START_PRESWACT will stop after displaying the OLD/NEW, ADDED, or DELETED tuples, and will give a message indicating an "error" due to the mismatch.

Example printout of TABLE_DELTA step:

```
TABLE_DELTA                      executing

Table OFCSTD
   Tuples do not match.  Old Count = 83.  New Count = 81
**ADDED   AUDVLOWFREQ 120

**OLD     BCS_NUMBER 39 0
**NEW     BCS_NUMBER 42 0

**OLD     CPSTACKSIZE 1504
**NEW     CPSTACKSIZE 2000

**ADDED   E911_NPD_TO_NPA_CONV_IN_EFFECT N

**DELETED CONSOLE_SILO_CHARS 510
**DELETED CONSOLE_SILO_RECORDS 20
**DELETED CUG_REGION 0
**DELETED MTCBASE_EXTRAMSG 1024
** Total mismatches are 8.

TABLE_DELTA                      not complete
Investigate and correct if needed.
Step START_PRESWACT failed.
The SWUPGRADE process has paused. Enter GO.
```

For any table with differences, compare the OLD/NEW, ADDED, and DELETED tuple(s) to identify and correct any errors. The engineering table changes are requested in advance of the ONP and are documented in market-specific "PARM" application files (such as FEATDATA). The office PARM information can be used to verify if the TABLE_DELTA step is correct. If any differences are found in error, correct them before continuing with the START_PRESWACT step.

IMPORTANT: The DELTA command has been enhanced beginning with CSP10 loads to take into account any requested office PARM changes made by the FEATDATA file during TABXFR. If the office is upgrading from CSP10 (or higher) loads, refer to "DELTA command syntax" in Appendix A to review the enhancements.

Make changes if required, then continue START_PRESWACT by typing:

> **swupgrade;go**

                    —continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Note 2: START_PRESWACT step TABLE_DELTA may also display an "informative" message without stopping. When this occurs, it is not considered an error; rather, it is an indication that something is different in the old and new PCLs. Note the information displayed, and at a convenient stopping point, compare the old and new loads to understand and validate the differences.

As an example:

```
TABLE_DELTA             executing
:
Table ATTCONS Checksum incorrect, keys match
:
TABLE_DELTA             complete
```

Note 3: START_PRESWACT steps STATUSUPDATE or STATUSCHECK may not complete due to the status of certain devices on the Active or Inactive side.

As an example:

```
STATUSUPDATE              executing

*** All devices on active side must be either ***
*** OK or OFFLINE before proceeding.          ***

The following devices are NOT OK and NOT OFFLINE:

Node Device
---- ------
     LINK 2 on MPC 1
     LINK 2 on MPC 5

STATUSUPDATE              not complete
Investigate and correct if needed.
Step START_PRESWACT failed.
The SWUPGRADE process has paused. Enter GO.
```

In order to complete the steps successfully, it will be necessary to <u>change the state of the device(s) identified </u>to either IN-SERVICE (OK) or OFFLINE.

The <u>operating company</u> is responsible for changing Active side device states. The <u>Applicator</u> is responsible for Inactive side device states. If Active side devices were changed (for example, OFFLINE), it will also be the operating company's responsibility to restore these devices after the ONP.

For the above example, to determine what IOC # and CARD # the MPC is on, enter the following command string:

> **mapci nodisp;mtc;iod;listdev mpc**
> **quit all**

Make changes if required, then continue START_PRESWACT by typing:

> **swupgrade;go**

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Note 4: A <u>hardware conversion</u> (such as LTC/LTCI) scheduled concurrently with the PCL upgrade will require certain table changes, additions or deletions. START_PRESWACT step TABLE_DELTA will detect a difference between the old and new data, and will stop, indicating a mismatch. If this is the case, confirm the table differences are due to the conversion and verify the new data is correct.

Make changes if required, then continue START_PRESWACT by typing:

ACT
> **swupgrade;go**

15   The PRESWACT_DIRP_AND_BILLING step <u>may require manual action</u>.

CAUTION
Failure to prepare AMA can cause loss of billing data over the SWACT.

Step: PRESWACT_DIRP_AND_BILLING

PRESWACT_DIRP_AND_BILLING instructs the user to prepare the DIRP billing devices for the CM switch of activity. This step causes the upgrade process to pause until the user enters GO, RESUME or CONTINUE.

IMPORTANT: This step may require manual action. When prompted to prepare DIRP and billing, complete the appropriate "PRESWACT DIRP and billing procedure(s) in Appendix B before continuing with the SWUPGRADE process.

Note: Offices equipped with SDM do not require manual action.

After completing the appropriate "PRESWACT DIRP and billing" procedure(s), continue by typing:

ACT
> swupgrade;go

Step: PRINT_SPMS_INDICES

PRINT_SPMS_INDICES dumps the SPMS indices to the trace device.

16   <u>Twice</u> the user will be asked to confirm a readiness to SWACT.

<u>First confirmation</u>, the GET_FIRST_SWACT_AGREEMENT step (below) reminds the user that preparation for SWACT will begin shortly. That step causes the software upgrade process to pause until the user enters GO.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: GET_FIRST_SWACT_AGREEMENT

GET_FIRST_SWACT_AGREEMENT determines the type of CC warm
SWACT (NORESTARTSWACT or RESTARTSWACT) that will be executed
and informs the user. This step also reminds the user that the preparation
for SWACT will begin shortly. This step causes the upgrade process to
pause until the user enters GO, RESUME or CONTINUE.

***Once the first SWACT agreement is confirmed, the user will be
prompted to complete several final steps to prepare for SWACT.***

If a delay of longer than 15 minutes is anticipated before SWACT, the user
should wait until all preparations are complete before continuing with GO.

Step: PREPARE_FOR_SWACT

PREPARE_FOR_SWACT reminds the user to perform the following:

1. If there are any remote applications (DNC) connected to this switch,
inform the operating company to have them log out before the
SWUPGRADE process can continue.
2. Instruct operating company personnel to contact the high profile
customers to ensure that they are not in emergency call processing mode
and inform them that a SWACT will occur shortly.
3. Disable all polling and periodic testing.
4. Ensure no further activity is performed on the DPP and inform the
downstream processing center.
5. Dump all special logs so they can be restored on the new load after
POSTSWACT.

This step causes the upgrade process to pause until the user enters GO,
RESUME or CONTINUE.

A FINAL_SWACT_CONFIRMATION is requested just before SWACT.

Step: STATUSCHECK

STATUSCHECK performs a status hardware check on the Active side to
ensure devices are in one of the following states: OK, OFFLINE, or
UNEQUIPPED. The step also compares the hardware status of the two
sides.

Step: CHECK_LOGS_5

Displays a count of logs in the Logutil buffer since the start of the process on
the Active side, Inactive side, or both. The type of logs displayed is
determined by the input to environment variable **LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also
display full trap information using the Logutil commands (see "Additional
information for dispalying logs" in step CHECK_LOGS_1).

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: TRANSFER_TIMINGS

TRANSFER_TIMINGS updates the step information on the Inactive CM just before the SWACT. It also transfers the step log data, which is used by step PRINT_SWUPGRADE_REPORT.

REMINDER: Verify that high profile customers are not in emergency call processing mode. Inform them that the SWACT will occur momentarily.

CAUTION
The next step will cause a CC Switch of Activity (SWACT)

Step: SWACT

FINAL_SWACT_CONFIRMATION requests a final agreement to switch activity just before performing the actual CC warm SWACT. Confirmation is secured by entering GO. Then the SWACT proceeds. The type of SWACT performed depends on the office configuration and is displayed in both SWACT confirmation requests. The result of this step is the final activation of the new load.

ATTENTION: Monitor the progress of the Switch of Activity on the Trace_device throughout the execution of this step.

IMPORTANT: If necessary to revert (SWACT back) to the old load, perform the appropriate procedure in the "Revert and Abort procedures" section.

REMINDER: Notice the correct use of the CANCEL command to terminate (abort) the AutoONP:

1. If the old software load is still Active, type CANCEL on the Active side to abort the CM upgrade process.

2. To revert or SWACT back to CSP07 (and higher) software loads, type CANCEL on the new load.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

17 After SWACT the SWUPGRADE user is automatically logged in on the
Active terminal and automatically resumes execution of the upgrade steps.
The auto login is only supported if the SWUPGRADE user is logged in on a
terminal device (TTY or CONSOLE) and is not supported for other devices
such as CMAP. Datakit access may require a manual login.

Note: Auto login is supported for a NORESTARTSWACT only.

If necessary, manually login and continue the AutoONP as follows:

a. After the SWACT, login on the new load by typing the following on the
Active terminal:

<*break*>

?LOGIN   *{system response}*
Enter username and password

> <**username**> <**password**>

or   > <**username**>
> <**password**>

b. Continue the AutoONP to conclusion (see Important note below):

> **swupgrade;go**

IMPORTANT: Instruct the operating company to perform a 911 test call. If
the test call fails to complete contact Nortel Networks Emergency Recovery
immediately. **Do not continue**. If the test call is successful continue the
SWUPGRADE process and ensure the following actions take place:

a) System recovery of all DIRP and billing subsystems,
b) System recovery of any critical alarms,
c) Operating Company begins Test Calls, and
d) System logs are monitored for office stability.

The remaining steps are automatically executed by the SWUPGRADE
process. Manual intervention is needed only when requested by display
on the Trace_device terminal.

Step: DISPLAY_DATE

DISPLAY_DATE displays the date and time on the new Active side.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: RECOVER_DIRP_AND_BILLING

RECOVER_DIRP_AND_BILLING requires the user to verify recovery of all
billing subsystems after SWACT and to set up standby and parallel
recording devices where applicable.

IMPORTANT: This step may require manual action. When prompted to
recover DIRP and billing, complete the appropriate "Recover DIRP and
billing" procedure(s) in Appendix B before continuing with the
SWUPGRADE process.

After completing the appropriate "Recover DIRP and billing" procedure(s),
continue by typing:

> **swupgrade;go**

Step: PERFORM_TEST_CALLS_1

PERFORM_TEST_CALLS_1 reminds the user to execute the test calls that
were identified ahead of time and documented in the test file scripts by
operating company personnel. For more detail, see Appendix C.

Step: START_POSTSWACT

START_POSTSWACT initiates the POSTSWACT process and executes a
series of steps and displays them on the Trace_device. If necessary, the
individual steps can be manually executed.

Note: START_POSTSWACT will pause after step BEGIN_TESTING. The
remaining steps will be executed during FINISH_POSTWACT.

If during START_POSTSWACT a step fails to complete, the process will
stop and give additional information. Use the information given to
investigate and correct the problem. After making corrections, continue
START_POSTWACT by typing:

> **swupgrade;go**

Step: RESTART_OLD_LOAD

RESTART_OLD_LOAD ensures that the old load is ready to take over in the
event of an ABORTSWACT. In order to check if the newly Active load is
ready, this step attempts to establish mate communication with the mate
side. This might cause a restart on the old load.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: DRTIME_PRINT

DRTIME_PRINT will optionally print the DRTIME report on the trace device. The DRTIME report is provided if the DRTIME_REPORT variable is set to YES during the setup phase.

Step: PERFORM_TEST_CALLS_2

PERFORM_TEST_CALLS_2 reminds the user to execute the test calls that were identified ahead of time and documented in the test file scripts by operating company personnel. For more detail, see Appendix C.

CAUTION
Do not UNSPLIT the switch until Test Calls are successfully completed.
Only after the Operating Company has accepted the new load and given the go-ahead should the CM be put back in duplex. The SWUPGRADE process will pause and ask if you are ready to UNSPLIT the switch. Do not confirm this until ready.

Step: UNSPLIT_SWITCH

UNSPLIT SWITCH will first prompt the user for confirmation and wait until RESUME, GO, or CONTINUE is entered. Once confirmation is received, the step will return the XA-Core processors and shared memory to duplex mode.

Step: FINISH_POSTSWACT

FINISH_POSTSWACT executes the remaining POSTSWACT steps after step BEGIN_TESTING. If necessary the individual steps can be manually executed. When FINISH_POSTSWACT finishes, all of the POSTWACT steps will be displayed with a status of "complete."

If during START_POSTSWACT a step fails to complete, the process will stop and give additional information. Use the information given to investigate and correct the problem. After making corrections, continue FINISH_POSTWACT by typing:

> **swupgrade;go**

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: RESTORE_PARMS

RESTORE_PARMS restores the values of the office parms
NODEREXCONTROL, LCDREX_CONTROL,
GUARANTEED_TERMINAL_CPU_SHARE and
DUMP_RESTORE_IN_PROGRESS which were saved in step
PRINT_PARMS_AND_SAVE.

Step: RESET_DEVICES

RESET_DEVICES verifies all devices used during the software upgrade
process are set to their original values. The LOGINCONTROL settings
MAX_IDLE_TIME and OPEN_CONDITION_LOGOUT may have been
changed in step VERIFY_DEVICES and the original values transferred to
the restore side by step TRANSFER_DEVICES_INFO. These device values
should be set to their original values.

Step: COMPLETE_NEW_LOAD_INIT

COMPLETE_NEW_LOAD_INIT prints a series of messages to remind the
site to perform some manual items after POSTSWACT is completed.

Step: RESET_LOGIN_BANNER

RESET_LOGIN_BANNER erases the SWUPGRADE login banner.

Step: DUMP_NEW_LOAD

DUMP_NEW_LOAD will use the AUTODUMP process to dump the newly
Active CM load. If the DUMP_NEW_LOAD variable has been set to YES
during the SETUP phase for SWUPGRADE, AUTODUMP must be turned
on and there must be an ACTIVE volume datafilled in IMAGEDEV.

Note: If the DUMP_NEW_LOAD variable was set to NO, the Site is
responsible for manually dumping an image of the new load immediately
after the AutoONP is complete.

Step: RESUME_REX_TEST

RESUME_REX_TEST will resume all REX test(s) previously suspended by
PRESWACT step SET_MATE_TUPLES.

Step: START_JOURNAL_FILE

START_JOURNAL_FILE re-establishes recording onto the journal file.

—continued—

Procedure 2
XA-Core AutoONP procedure steps (continued)

Step: PRINT_SWUPGRADE_REPORT

PRINT_SWUPGRADE_REPORT generates and prints a summary report of the software upgrade. The report contains information on the steps performed, their timings and return codes.

Description of the report columns:

Step name: The name of the step.

Since last: Elapsed time between previous and this step.

Start: Start time of this step.

Elapsed: The time it took to execute this step.

Return code: The final status of the step after completion.

Possible values for the return code are:

success: Step executed successfully.

pause_fail: The step failed and was re-executed.

pause_repeat: The step needed to be executed more than once.

pause_skip: The step caused a pause but was not re-executed.

Step: STOP_RECORD

STOP_RECORD stops the recording onto the printer designated by the PRINTER variable.

Step: UPGRADE_COMPLETE

The user must enter GO to continue and reset the SWUPGRADE process. When complete, this step reminds the user to quit the SWUPGRADE increment.

---

18   Quit the SWUPGRADE increment.

IMPORTANT: Do not quit until the following message is displayed:

…*Process complete.You may now QUIT out of the SWUPGRADE increment. Finished step UPGRADE_COMPLETE.*

> **quit**

This completes the XA-Core AutoONP procedure.

8 Revert and Abort procedures

8.1 General.

Perform these procedures only if it is necessary to Revert (SWACT back) to the old software load, *or* if it is necessary to Abort (cancel) the SWUPGRADE process prior to SWACT. In most cases and under normal circumstances, the Revert to old load process will take approximately 45 minutes to complete. Depending on the software level and whether or not SWACT has occurred, one of the following procedures will apply:

Section 8.2 - Revert (SWACT back) to CSP07 and higher loads.

Section 8.3 - Abort (before SWACT) procedure for CSP06 and higher loads.

Section 8.4 - Revert (SWACT back) to CSP06 loads only.

Section 8.5 - Emergency Abort procedure (CM/SLM offices only) for all software loads

<u>IMPORTANT</u>: Notice the correct use of the CANCEL command to terminate (abort) the AutoONP:

1. If the old software load is still Active, type CANCEL on the ACT_terminal to abort the SWUPGRADE process.

2. To Revert or SWACT back to the old software load, type CANCEL on the new load.

3. Do not use the CANCEL command on the new software load to Revert back to CSP06 loads. If necessary to Revert back to a CSP06 load, manual steps must be performed to abort the AutoONP.

8.2 Revert back to CSP07 and higher loads

8.2.1 Procedure 1 - Revert procedure steps

    1   **ACT** Type the following on the Active terminal:

    > **swupgrade**   *{enter on ACT_terminal}*
    > **cancel**
    Two confirmations will be required to continue.

    > **yes**

    > **yes**

—continued—

Procedure 1
Revert procedure steps   (continued)

Example:

Following is an example of the messages generated when the Cancel
command is entered on the Active terminal and confirmed twice.

```
************************************************************
**                      WARNING!!
**
** The CANCEL command cancels all work done by SWUPGRADE
** so far. Once cancelled SWUPGRADE has to be re-started.
** To halt temporarily, use the PAUSE command. Type:
**        HELP PAUSE
** for more information.
**
** Do you wish to CANCEL the SWUPGRADE?
************************************************************
Please confirm ("YES", "Y", "NO", or "N"):
> yes


************************************************************
**                      WARNING!!
**
** CANCEL will rollback all completed steps.
** The switch is not in sync.
** Do you want to SYNC the switch during the rollback?
************************************************************
Please confirm ("YES", "Y", "NO", or "N"):
> yes
```

End of example

2 *<u>CAUTION</u>: Watch the output messages on the TRACE DEVICE!*
   The "Trace Device" will output messages informing the operator what steps
   are being rolled back (see example below). Upon getting the messages:

   The SWUPGRADE process has paused. Enter GO or
   Type GO to resume CANCEL

   The operator must type "GO" and press return on the ACT terminal until
   getting the message:

   SWUPGRADE CANCEL is completed.
   You may now QUIT out of the SWUPGRADE increment.

—continued—

Procedure 1
Revert procedure steps   (continued)

3   **ACT** After the SWACT, login on the old load by typing the following on the
Active terminal.

<break>

?login

Enter username and password:

> <**username**> <**password**>

or   > <**username**>
> <**password**>

IMPORTANT! Immediately after logging in to the old load and before
continuing the Revert AutoONP, type the following:

> **tabxfr;cancel**

terminal response:

```
**WARNING: This command cancels the data move. Once
cancelled it cannot be restarted without rebooting the
new BCS image. If a temporary halt is desired please use
the HALT or STOPXFR commands. Do you wish to CANCEL the
data move?

Please confirm ("YES", "Y", "NO", or "N"):
```

> **y**   *{for confirmation }*
> **quit**

4   **ACT** Ensure the Trace device is still set. Type the following on the

Active terminal.

> **swupgrade;disp var trace_device**

If the tracing is not set to a device, or if it is set to the wrong device, set the
trace device as follows.

> **set trace_device <device_name>**

Where <device_name> is the device selected for tracing.

5   **ACT** Continue the Revert AutoONP to conclusion.

> **swupgrade**
> **go**

—continued—

Procedure 1
Revert procedure steps   (continued)

6 **ACT** Enter the following when SWUPGRADE CANCEL is completed: .

> **quit all**

Example session of CANCEL issued after SWACT step is completed:

```
Executing the step RESTART_OLD_LOAD.
The step RESTART_OLD_LOAD is completed.

Executing the step STATUSCHECK.
Checking Nodes Status
Checking MS Interface Cards Status
Checking LIU Status
Checking MPC Links Status
Checking MS FBUS Status
STATUSCHECK successful.
The step STATUSCHECK is completed.

Executing the roll back for step recover_dirp_and_billing.
Configure the DIRP billing subsystems for revert SWACT to
the old load.

Note: For details for completing the following refer to
"PRESWACT DIRP and billing" procedure.
a. ACT Take down billing tapes and format new standby
      volumes in DIRP. Leave these demounted, they will
      become the active volumes after SWACT.
      Disk volumes will rotate and recover automatically
      after SWACT.
      Parallel volumes on tape (or DPP/BMC) can be
      recovered manually after SWACT.
b. INACT Ensure datafill is correct on the inactive side for
      table DIRPPOOL.
```

—continued—

Procedure 1
Revert procedure steps   (continued)


```
c. INACT if DIRP_REC file is present on the inactive SFDEV,
      ensure each entry in DIRP_REC is correct for the
      revert SWACT.
      Note: In DIRP_REC the parallel volume assignments
      for DIRPPOOL should be set to nil ($) for all pools.
Execution completed.
The SWUPGRADE process has paused. Enter GO.


WARNING: SWUPGRADE is about to execute the ABORTSWACT step.
         Do you wish to proceed?
Execution completed.
The SWUPGRADE process has paused. Enter GO.


Executing the step SWACT.
Beginning SWACT checks:
All the SWACT checks have finished successfully.


****************** FINAL SWACT CONFIRMATION ******************
Do you wish to proceed with the ABORTSWACT CC warm swact?
Execution is not complete.
The SWUPGRADE process has paused. Enter GO.


Executing the step SWACT.
After the completion of the CC warm swact, please log
onto the new active side and enter SWUPGRADE;GO.
All Pre-SWACT checks completed. Starting Warm SWACT now.
********   The cursor will not be returned  ********
********  unless a critical failure occurs. ********
******** Now monitoring Warm SWACT messages.********


Pre-initialization done
Communication established

Exchange of data with the mate done
Transfer of data done (FASPECT)
Data estimation done
```

—continued—

Procedure 1
Revert procedure steps   (continued)

```
Store allocated on active CC
Store allocated on inactive CC
AMA processing completed
Before_callp_stopped procs completed
Call processing on PM stopped
Call processing I/O in CC stopped
Call data extracted
Data transfer completed


Activity Switch...


This device is selected for TRACEing


Starting step DISPLAY_DATE.
Date: 1998/08/24, Time: 10:43:50
The step DISPLAY_DATE is completed
Executing the step START_POSTSWACT
REACTIVATE_TRIGASGN                 executing
DIRP_RECOVERY                       executing
DIRP_RECOVERY                       complete
                .
                .
                .
BEGIN_TESTING                       executing
BEGIN_TESTING                       complete


Enter Postswact after office testing has been completed
The step START_POSTSWACT is completed
Executing the step CHECK_LOGS_1
New logs on ACTIVE CM since 1998/08/24 10:09:12:

    TRAP     : 0
    SWERR    : 0
    CM       : 8
    CMSM     : 0
    MS       : 2
    NET      : 0
    ENET     : 0
```

—continued—

Procedure 1
Revert procedure steps   (continued)

```
Use command DISPLAY LOG <log name> <n or ALL> [Act or Inact]
to see the content of a log.
Execution completed.
The SWUPGRADE process has paused. Enter GO.



Executing the rollback for step PRESWACT_DIRP_AND_BILLING.
Please follow the step Recover billing from the ONP MOP
procedure Revert to old load to perform the rollback
of the step PRESWACT_DIRP_AND_BILLING.
Execution completed.
The SWUPGRADE process has paused. Enter GO.

Executing the step RESTORE_PARMS
The step RESTORE_PARMS is completed.
Executing the step PERFORM_TEST_CALLS.
   AMAB has been added to the LOGS variable for
   automatic monitoring during the execution of the
   test calls for possible AMA test call failures.
   Please perform the test calls that were identified ahead
   of time and documented in the test file scripts.
Execution is not complete.
The SWUPGRADE process has paused. Enter GO.



Executing the step PERFORM_TEST_CALLS.
AMAB has been removed from the LOGS variable.
The step PERFORM_TEST_CALLS is completed.
Executing the step SYNC_SWITCH.
SWUPGRADE has now reached the SYNC_SWITCH step.
Are you ready to SYNC the switch?
Execution is not complete.
The SWUPGRADE process has paused. Enter GO.



Executing the step SYNC_SWITCH.
The step SYNC_SWITCH is completed.
Executing the step FINISH_POSTSWACT
```

—continued—

Procedure 1
Revert procedure steps   (continued)

```
ENABLE_PATCH_AUDIT_POSTSWACT      executing
ENABLE_PATCH_AUDIT_POSTSWACT      complete
          .
          .
          .
The step FINISH_POSTSWACT is completed.
Executing the step DUMP_NEW_LOAD
No Automatic Image Dump was requested. If needed,
please dump the image manually as soon as possible
The step DUMP_NEW_LOAD is completed.
Executing the step START_JOURNAL_FILE.
The step START_JOURNAL_FILE is completed.
Executing the step RESET_DEVICES
The step RESET_DEVICES is completed.
If any abort actions are required for step READ_BULLETINS
please perform them now.
Type GO to resume CANCEL.

Executing the ABORT_PRESWACT.
REACTIVATE_DCT                    executing
REACTIVATE_DCT                    complete
        .
        .
        .
RESET_SIS_ROUTING_DATA            executing
RESET_SIS_ROUTING_DATA            complete
ABORT_PRESWACT has completed.
Execution completed.

Executing the step STOP_RECORD
The step STOP_RECORD is completed.

The rollback of SWUPGRADE steps is completed.

SWUPGRADE CANCEL is completed.
You may now QUIT out of the SWUPGRADE increment.
```

End of example

End of Revert to CSP07 and higher procedure

8.3 Abort procedure prior to SWACT

This section details the steps required to terminate (abort) the software upgrade process before SWACT has occurred. The Abort procedure is applicable to all software loads on CSP06 and higher for both SuperNode CM/SLM and SuperNode XA-Core.

8.3.1 Procedure 1 - Abort procedure steps

1   **ACT** Cancel the SWUPGRADE process. Type the following on the Active terminal:

> **swupgrade**
> **cancel**
Two confirmations will be required to continue.

> **yes**
> **yes**

Example:

Following is an example of the messages generated when the Cancel command is entered on the Active terminal and confirmed twice.

```
************************************************************
**
**                    WARNING!!
**
** The CANCEL command cancels all work done by SWUPGRADE
** so far. Once cancelled SWUPGRADE has to be re-started.
** To halt temporarily, use the PAUSE command. Type:
**       HELP PAUSE
** for more information.
**
** Do you wish to CANCEL the SWUPGRADE?
************************************************************
**
Please confirm ("YES", "Y", "NO", or "N"):
>YES


************************************************************
**
**                    WARNING!!
**
** CANCEL will rollback all completed steps.
** The switch is not in sync.
** Do you want to SYNC the switch during the rollback?
************************************************************
Please confirm ("YES", "Y", "NO", or "N"):
>YES
```

End of example

—continued—

Procedure 1
Abort procedure steps   (continued)

2   _CAUTION: Watch the output messages on the TRACE DEVICE!_
The "Trace Device" will output messages informing the operator what steps
are being rolled back (see example below). Upon getting the messages:

> _The SWUPGRADE process has paused. Enter GO or_
> _Type GO to resume CANCEL_

The operator must type "GO" and press return on the ACT terminal until
getting the message:

> _SWUPGRADE CANCEL is completed._
> _You may now QUIT out of the SWUPGRADE increment._

3   _CAUTION: Manual intervention is required._

**For SuperNode CM/SLM:**
When the below step is generated on the Trace Device the operator must
release the JAM on the INACT RTIF before executing the step. This step
will be executed once the operator types "GO" and presses return on the
ACT terminal.

> Executing the step SYNC_SWITCH.
> SWUPRADE has now reached the SYNC_SWITCH step
> Are you ready to SYNC the SWITCH?

**For SuperNode XA-Core:**
When the below step is generated on the Trace Device the operator must
enter confirmation before executing the step. This step will be executed
once the operator types "GO" and presses return on the ACT terminal.

> Executing the step UNSPLIT_SWITCH.
> SWUPRADE has now reached the UNSPLIT_SWITCH step
> Are you ready to UNSPLIT the SWITCH?

**Example session of CANCEL before SWACT step is executed**:

```
WARNING: The rollback of software upgrade steps is
         about to start.

Resetting the default tabxfr platform.

Tabxfr platform has been reset to STANDARD.
Executing the rollback for step PRESWACT_DIRP_AND_BILLING.

Please follow the step Recover billing from the ONP MOP
procedure Revert to old load to perform the rollback
of the step PRESWACT_DIRP_AND_BILLING.
Execution completed.
The SWUPGRADE process has paused. Enter GO.
```

—continued—

Procedure 1
Abort procedure steps   (continued)

```
Executing the step RESTORE_PARMS
The step RESTORE_PARMS is completed.

Executing the BCSUPDATE step ENABLE_AUTOIMAGE.
ENABLE_AUTOIMAGE complete

If any abort actions are required for step EXAMPLE_CI_STEP
please perform them now.
Type GO to resume CANCEL.

Executing the step UNSPLIT_SWITCH.
SWUPGRADE has now reached the UNSPLIT_SWITCH step.

Are you ready to UNSPLIT the switch?
Execution is not complete.
The SWUPGRADE process has paused. Enter GO.

Executing the step UNSPLIT_SWITCH.
The step UNSPLIT_SWITCH is completed.
The journal file was not originally on.
It will not be restarted automatically.

Executing the step RESET_DEVICES
The step RESET_DEVICES is completed.
If any abort actions are required for step READ_BULLETINS
please perform them now.
Type GO to resume CANCEL.

Executing the ABORT_PRESWACT.
REACTIVATE_DCT                      executing
REACTIVATE_DCT                      complete
REACTIVATE_TRIGASGN                 executing
REACTIVATE_TRIGASGN                 complete
NBD_ABORT_PRESWACT                  executing
NBD_ABORT_PRESWACT                  complete
ENABLE_PES_AUDIT                    executing
ENABLE_PES_AUDIT                    complete
RESET_OFFICE_TUPLES                 executing
WARNING: Guaranteed_Terminal_CPU_Share already restored.
RESET_OFFICE_TUPLES                 complete
ENABLE_AUTOIMAGE                    executing
ENABLE_AUTOIMAGE                    complete
RESUME_ATT                          executing
RESUME_ATT                          complete
RESET_SIS_ROUTING_DATA              executing
RESET_SIS_ROUTING_DATA              complete
ABORT_PRESWACT has completed.
Execution completed.
```

—continued—

Procedure 1
Abort procedure steps   (continued)

```
Executing the step STOP_RECORD
The step STOP_RECORD is completed.
The rollback of SWUPGRADE steps is completed.

SWUPGRADE CANCEL is completed.
You may now QUIT out of the SWUPGRADE increment.
```

End of example

4   **ACT** Quit out of the SWUPGRADE increment.

> **quit all**

End of Abort procedure prior to SWACT

8.4 Revert back to CSP06 load

This section details the procedures required to Revert (SWACT back) to CSP06 software loads only. Do not perform these procedures if reverting back to a software load that is higher than CSP06.

Note: This procedure is not applicable to SuperNode XA-Core.

Perform the following procedure if a controlled Revert is required after the switch of activity (SWACT) to the new load.

<u>*REMINDER*</u>*:* The CPU with the new software load is now *Active*. You will be going back to the old software load that is now *Inactive*.

CAUTION
<u>*Do not*</u> **attempt to use the "NORESTARTSWACT" command
to Revert back to the old software load.**
Instead, use the procedure steps below. The NORESTARTSWACT command was not designed to Revert back to CSP06 software loads.

8.4.1 Procedure 1 - Before Revert

1   **Site** Do not proceed until both the Operating Company and Nortel Networks on-line support agree.

---

2   **Site** Contact high profile customers and customers with essential services (that is, police and emergency bureaus, hospitals, etc.) to verify they are not in emergency call processing mode.

8.4.2 Procedure 2 - Restart Inactive Revert

CAUTION
Do not perform this procedure if the restart reload on the Inactive side was already done and the Inactive processor is flashing A1.

---

1   **Site/INACT** Perform a restart reload on the Inactive processor (the old PCL software load).

   a.   From the CM MAP level, ensure the Inactive processor is *not* under test (ut). If it is, WAIT FOR THE TESTING TO COMPLETE.

   b.   From the Inactive RTIF perform a restart reload on the *Inactive* processor (old load).

   `RTIF> \RESTART RELOAD`

   `RTIF> YES`   *{for confirmation}*

   c.   Allow initialization on the Inactive side. Inform the Applicator when the Inactive processor is flashing A1.

---

2   **App/INACT** Confirm that the Inactive processor is flashing A1.

8.4.3 Procedure 3 - Run STATUSCHECK check

1 **App/ACT** Run STATUSCHECK to compare hardware status of the two sides. (Status must be OK, OFFLINE, or UNEQUIPPED.) This also verifies communication with the mate side.

Note: STATUSCHECK *may* cause a restart on the Inactive side (watch the Inactive RTIF). If the Inactive side does restart, it should initialize and come back to a flashing A1.

a. `> BCSUPDATE;SWACTCI;STATUSCHECK`

b. Ensure the STATUSCHECK passes (both sides match).
If STATUSCHECK fails, investigate and correct any hardware mismatches and any devices not OK or OFFLINE. Once all problems have been corrected, rerun STATUSCHECK and ensure it passes.

Note: The operating company is responsible for changing Active side device states, and the Applicator is responsible for the Inactive side devices.

8.4.4 Procedure 4 - Login Inactive Revert

1   **Site and App/INACT** Verify with site there is a flashing A1 on the Inactive processor.

2   **App** Login on the Inactive (mate) side as follows.

    a.   **ACT** On the Active terminal type:

```
> MATEIO

> MATELOG <device_name>
```
Where <device_name> is the name of the Inactive terminal.

    b.   **INACT** On the Inactive terminal type:

```
Enter username and password            {mate side response}
Mate> <username> <password>
```

or
```
Enter username
Mate> <username>

Enter password
Mate> <password>
```

8.4.5 Procedure 5 - Configure DIRP and billing

1   **Site and App** Configure the DIRP billing subsystems for a revert (SWACT back) to the old load.

*Note***:** For details refer to the "PRESWACT DIRP and billing procedures" section in Appendix B.

    a.   **ACT** Take down billing tapes and format new standby volumes in DIRP. Leave these de-mounted, they will become the Active volumes after SWACT.

        Disk volumes will rotate and recover automatically after SWACT.

        Parallel volumes on tape should be recovered manually after SWACT.

    b.   **INACT** Ensure datafill is correct on the mate side for table DIRPPOOL.

    c.   **INACT** If DIRP_INAC file is present in mate SFDEV, ensure each entry in this file is correct for the revert SWACT.

        Note: In DIRP_INAC the parallel volume assignments for DIRPPOOL should be set to nil ($) for all pools.

8.4.6 Procedure 6 - Start logs before Revert

1   **App/ACT** Set up LOGS for the Revert (SWACT back).

Note: The purpose of this step is to turn on logs at the terminal designated as the "ACT" device. Normally, logs will have been routed also to a printer at the start of the session.

a.   `> LOGUTIL;STOP`

b.   `> DELDEVICE <`**`device_name`**`>`
Where <device_name> is where logs are to be routed.

c.   `> ADDREP <`**`device_name`**`> SWCT`

d.   `> START`
This starts logs on "this" device. If a different terminal device was selected above, then use >STARTDEV <device_name>.

e.   `> LEAVE`

8.4.7 Procedure 7 - Revert

1   **Site and App/INACT** Ensure Inactive side is *unjammed*.

---

2   **App/ACT** Wait a *minimum* of 10 minutes after the *completion* (flashing A1) of the last RESTART on the Inactive side before entering the ABORTSWACT, ABORTSWCT, or RESTARTSWCT command.

> **CAUTION**
> **FAILURE TO WAIT AT LEAST 10 MINUTES may result in the office doing a restart reload instead of a controlled SWACT.**
> Remember, a STATUSCHECK or MATELINK RTS FORCE can each cause a mate restart.

---

3   **App/ACT** INTERNATIONAL offices switch CC activity (SWACT) as follows. *All others go to the next step.*

Note: This step is valid if International Common Basic is built into the load.

```
> INTLSWCT;DATE;RESTARTSWCT
```
                                                              {only for INTL offices}

---

4   **App/ACT** ALL OTHER offices (not INTL) switch CC activity (SWACT) with CC WarmSWACT as follows.

```
> BCSUPDATE;SWACTCI;DATE;ABORTSWACT
```

> **CAUTION**
> **The ABORTSWACT command has an option called NOCHECK which will allow the CC WarmSWACT to continue even if there are bad devices on the Active side (such as a CBSY LTC).**
> Use the NOCHECK option *only* as a last resort and with special care taken to ensure office integrity.

Response varies with PCL level, but the following is a typical example.

```
ACTIVE DEFAULT SETTINGS:
FORCESWACT set ON
LOADEXECS  set ON
NOMATCH    set OFF
Do you wish to continue?
Please confirm ("YES" or "NO"):

...Starting WarmSWACT now.
```

—continued—

Procedure 7
Revert (continued)

5   **Site/ACT** Monitor the SWACT, and inform the Applicator as soon as the
Active side processor is flashing A1.

CAUTION
Work quickly to complete the procedures that follow.
The POSTSWACT steps will verify that the office is functioning
normally with the old software load.

8.4.8 Procedure 8 - Start POSTSWACT Revert

CAUTION

After a CC WarmSWACT *do not* JAM the Inactive CPU RTIF.
The system requires the JAM status to be clear on both CPUs in order
to recover successfully. Recovery is indicated with a SWCT 101 log.

---

1   **App/ACT** After ABORTSWACT, perform the following steps.

Type:

<break>

```
?LOGIN
Enter username and password                          {system response}
```

> **<username> <password>**

or   > **<username>**
> **<password>**

---

2   **App/ACT** Verify the DATE and time are correct.

> DATE

---

3   *IMPORTANT:* Instruct the operating company to perform a 911 test call. If
the test call fails to complete contact Nortel Networks Emergency Recovery
immediately. **Do not continue**. If the test call is successful continue.

---

4   Reset the TABXFR process.

> TABXFR;CANCEL

> Y   *{for confirmation}*

> QUIT

—continued—

Procedure 8
Start POSTSWACT Revert (continued)

5   App/ACT Start POSTSWACT.

> `BCSUPDATE;POSTSWACT`

Note: POSTSWACT runs all steps required after the switch of activity and sets them as "complete" when they pass. If any step fails to complete, POSTSWACT will stop and give additional information. Use the information given to investigate and correct the problem. After making corrections, continue running POSTSWACT by typing:

> `POSTSWACT`   *{still in BCSUPDATE}*

If no problems are encountered, POSTSWACT stops after step BEGIN_TESTING and waits until the operating company verifies the sanity of the current load.

6   *IMPORTANT:* After starting POSTSWACT, ensure the following actions take place:

a) system recovery of all DIRP billing subsystems,

b) system recovery of any critical alarms,

c) Operating Company begin their Test Calls, and

d) system logs are monitored for office stability.

8.4.9 Procedure 9 – Recover DIRP and billing

Site and App/ACT POSTSWACT recovers PRIMARY (regular) billing subsystems such as AMA, SMDR, OCC, CDR and AFT. Confirm that affected DIRP subsystems were successfully activated. If billing is on tape (MTD) manually assign the STANDBY volumes. Then site may manually bring up PARALLEL subsystem(s) as required.

1 > MAPCI;MTC;IOD;DIRP
> QUERY AMA ALL   *{note which volume is ACTIVE}*

2 If DPP or BMC, call downstream processing to POLL billing data. (Polling is optional. It may also be done after test calls are completed.)

3 Remount TAPEX volumes using the DIRP MNT command.

4 As needed, assign STANDBY billing devices for TAPE and DPP/BMC.

5 If using SMDR, rotate the SMDR volume from the DIRP level of the MAP (this will ensure the RECORD HEADER is correct). If SMDR recording is on BMC and no standby volume is available, then mount a temporary STDBY TAPE volume. Rotate the BMC port OUT and back IN. Remove the tape volume after this is done.

   Note: Since some SMDR recording applications on BMC collect SMDR records based on the customer group ID only, this ensures that any changes to the customer group IDs are passed to the BMC upon rotate (and the RECORD HEADER is correct).

6 If using AFT, ensure process has started and all Active AFT sessions are in SENDING state. If needed, start AFT sessions manually.

   > AFT
   > STARTAFT <**aft_session**>
   > QUERYAFT <**aft_session**>   *{verify "SENDING" in status bar}*
   > QUIT

7 As needed, bring up PARALLEL devices.

8 Verify all regular and parallel devices are working for all available billing subsystems in DIRP.

8.4.10 Procedure 10 - Monitor logs after Revert

1   **App/INACT** Monitor LOGS after the Revert then do a LOGCHECK.

Note: The purpose of this step is to turn on *Active-side* logs at the terminal designated as the "INACT" device (since POSTSWACT is running on the ACT device). Any other terminal device may also be used. Logs can also be routed to a printer for the remainder of this session.

a.   `> LOGUTIL;OPEN SWCT;BACK ALL`
This prints out SWACT time, SWACT duration and other SWACT information.

b.   `> LOGUTIL;START`
This starts logs on "this" device. If a different terminal device is desired, then use >STARTDEV <device_name>.

c.   Let logs run for at least 30 minutes, then run LOGCHECK.

```
> LOGUTIL;STOP;QUIT
> BCSUPDATE;LOGCHECK;QUIT
```

d.   When LOGCHECK is done, start logs again and let run until monitoring is completed. (Repeat substep b.)

8.4.11 Procedure 11 - Do Test Calls Revert

1   **Site/ACT** Verify all <u>Emergency Services</u> are functioning.

Then, perform the TEST CALLS that were identified ahead-of-time.
Refer to the *Test Call Scripts*.

2   **Site and App/INACT** If asked to do so by technical support and only with approval, dump an image of the Inactive (mate) side.

Only after this mate image is completed should the processors be put back in sync (next procedure).

8.4.12 Procedure 12 - After testing is complete SYNC SuperNode

<u>IMPORTANT!</u>—for CM card changes:

If aborting a ONP/CM Card Replacement—Once the operating company and Nortel Networks agree all tests have passed satisfactorily, the Applicator must <u>wait</u> to allow the on-site **Installer** to complete the following step:

- re-install the original hardware on the Inactive side CM shelf

- SYNC the switch when done

- return switch to the **Applicator** (who will complete POSTSWACT, *steps 1.b and 1.c below*)

1   **App/ACT** POSTSWACT will STOP at step BEGIN_TESTING to allow the site to complete testing. When testing is complete, SYNC the CM processors as follows.

Note: Do not enter POSTSWACT again until the processors are in SYNC.

a.   `> MAPCI;MTC;CM;SYNC`
    `> YES`   *{for confirmation}*
    `> QUIT MAPCI`

b.   `> REXTEST SUSPEND ALL`

If in PRSM on CSP06
`> AUTOPROC ALL STOP;AUTOPROC ALL DELAY`

These commands allow final activities to occur without interruption, including dumping an image of the new PCL.

c.   `> POSTSWACT`   *{still in BCSUPDATE}*

At this point BCSUPDATE will run the remaining POSTSWACT steps and set them to "complete" when they pass. If any step fails, follow given instructions to correct the problem, then continue by typing: POSTSWACT.

8.4.13 Procedure 13 - Finish POSTSWACT Revert

1   **App/ACT** Clean up SFDEV by erasing any application-related files (for example: FEATDATA, SITEINFO, and DIRP_INAC).

2   **Site/ACT** For security the operating company should verify passwords for users ADMIN and OPERATOR.

3   **Site/ACT** Reassign all current PROFILE information (LOGIN or RESTART) in SFDEV.

4   **Site/ACT** Reassign any temporary log ROUTING setup via LOGUTIL.

5   **App/ACT** If table PADNDEV was manually changed for mate-side patching, restore the original data in this table to point to the correct patch download device(s).

6   **Site/ACT** Reassign any changes in the INTEG level of the MAP (for example, UPTH, BUFFSEL, FILTER and others).

7   **Site/ACT** Return PORTS and USER information back to original values.

8   **Site/ACT** Notify DNC end users to LOGIN the DNC.

9   **Site/ACT** If Network Management code blocking was removed earlier, have Network Maintenance personnel restore code blocking active.

8.4.14 Procedure 14 - Start journal file

1   **Site/ACT** If equipped, start journal file and verify started.

    a.   `> JF START`

    b.   `> MAPCI;MTC;IOD;DIRP`

    c.   `> QUERY JF ALL`
       QUERY JF should respond with "AVAIL." If a standby device is being used, both Active and standby volumes should be marked "AVAIL."

    d.   `> QUIT ALL`

8.4.15 Procedure 15 - Reset AutoONP steps

1   **App/ACT** Cancel the SWUPGRADE process and reset the AutoONP steps on the current load to their original configuration.

```
> SWUPGRADE;CANCEL
```

Two confirmations will be required to continue.

```
> YES
```

```
> YES
```

---

2   *<u>CAUTION</u>: Watch the output messages on the TRACE DEVICE!*
The "Trace Device" will output messages informing the operator what steps are being rolled back. Upon getting the messages:

> *The SWUPGRADE process has paused. Enter GO or*
> *Type GO to resume CANCEL*

The operator must type "GO" and press return on the ACT terminal until getting the message:

> *SWUPGRADE CANCEL is completed.*
> *You may now QUIT out of the SWUPGRADE increment.*

---

3   **App/ACT** Quit the SWUPGRADE increment.

```
> QUIT
```

---

4   **App/ACT** Verify that tuple DUMP_RESTORE_IN_PROGRESS is set to "N" in table OFCSTD.

```
> TABLE OFCSTD
> POS DUMP_RESTORE_IN_PROGRESS
```

If not "N" already, do:

```
> RWOK ON;OVE;VER OFF
> CHA 2 N
```

```
> QUIT ALL
```

End of Revert to CSP06 procedure.

8.5 Emergency Abort for SuperNode CM/SLM

This section details the procedures required to Revert (SWACT back) a DMS SuperNode CM/SLM switch **without regard to preserving stable call processing**. <u>Do not</u> perform the following procedure if a controlled Revert is required after the switch of activity (SWACT) to the new load. If a controlled Revert is required, perform either the "Revert back to CSP07 and higher loads" or the "Revert back to CSP06 load" procedure (see section 8.1).

Note: This procedure is not applicable to DMS SuperNode XA-Core.

<u>*REMINDER*</u>*:* The CPU with the new software load is now *Active*. You will be going back to the old software load that is now *Inactive*.

CAUTION
Perform the following steps only if a decision has been reached to activate the old load without regard to preserving stable call processing.

8.5.1 Procedure 1 - Before EABORT

1   **Site** Do not proceed until both the Operating Company and Nortel Networks on-line support agree.

---

2   **Site** Contact high profile customers and customers with essential services (that is, police and emergency bureaus, hospitals, and radio stations) to verify they are not in emergency call processing mode.

8.5.2 Procedure 2 - Restart Inactive EABORT

CAUTION
Do not perform step 1 (below) if the restart reload on the Inactive side was already done and the Inactive processor is flashing A1.

---

1 **Site/INACT** Perform a restart reload on the Inactive processor (old PCL load).

 a. From the CM MAP level, ensure the Inactive processor is *not* under test (ut). If it is, WAIT FOR THE TESTING TO COMPLETE.

 b. From the Inactive RTIF perform a restart reload on the *Inactive* processor (old load).

   ```
   RTIF> \RESTART RELOAD
   ```

   ```
   RTIF> YES                              {for confirmation}
   ```

 c. Allow initialization on the Inactive side. Inform the Applicator when the Inactive processor is flashing A1.

---

2 **App/INACT** Confirm that the Inactive processor is flashing A1.

8.5.3 Procedure 3 - Cold SWACT SuperNode

1   **Site and App/INACT** Ensure Inactive side is *unjammed*.

---

2   **Site/ACT** JAM the *Active side* to force a switch of activity (cold SWACT).

```
RTIF> \OVERRIDE
```

```
RTIF> \JAM
```

```
RTIF> YES                                          {for confirmation}
```

---

3   **Site/ACT** Monitor the SWACT, and inform the Applicator when the Active side processor is flashing A1.
At this point the CC switch of activity is over.

---

4   **Site and App/ACT** *Work quickly to complete the next procedure*. The *POSTSWACT* procedure checks that the office is functioning as normal.

Note: Notify appropriate levels of support of the EABORT before putting the office back in SYNC.

8.5.4 Procedure 4 - Start POSTSWACT EABORT

1 **App/ACT** After EABORT, perform the following steps.

Type:

<break>

```
?LOGIN
Enter username and password                    {system response}
```

> **<username>** **<password>**

or > **<username>**
> **<password>**

---

2 Verify the DATE and time are correct.

```
> DATE
```

---

3 *IMPORTANT:* Instruct the operating company to perform a 911 test call. If the test call fails to complete contact Nortel Networks Emergency Recovery immediately. **Do not continue**. If the test call is successful continue.

---

4 Reset the TABXFR process.

```
> TABXFR;CANCEL
```

> Y   *{for confirmation}*

```
> QUIT
```

—continued—

Procedure 8
Start POSTSWACT EABORT (continued)

5   **App/ACT** Start POSTSWACT.

> `BCSUPDATE;POSTSWACT`

Note: POSTSWACT runs all steps required after the switch of activity and sets them as "complete" when they pass. If any step fails to complete, POSTSWACT will stop and give additional information. Use the information given to investigate and correct the problem. After making corrections, continue running POSTSWACT by typing:

> `POSTSWACT`   *{still in BCSUPDATE}*

If no problems are encountered, POSTSWACT stops after step BEGIN_TESTING and waits until the operating company verifies the sanity of the current load.

6   *IMPORTANT:* After starting POSTSWACT, ensure the following actions take place:

a) system recovery of all DIRP billing subsystems,

b) system recovery of any critical alarms,

c) Operating Company begin their Test Calls, and

d) system logs are monitored for office stability.

8.5.5 Procedure 5 - Recover DIRP and billing

Site and App/ACT POSTSWACT recovers PRIMARY (regular) billing subsystems such as AMA, SMDR, OCC, CDR and AFT. Confirm that affected DIRP subsystems were successfully activated. If billing is on tape (MTD) manually assign the STANDBY volumes. Then site may manually bring up PARALLEL subsystem(s) as required.

1	`> MAPCI;MTC;IOD;DIRP` `> QUERY AMA ALL`	*{note which volume is ACTIVE}*

2   If DPP or BMC, call downstream processing to POLL billing data. (Polling is optional. It may also be done after test calls are completed.)

3   Remount TAPEX volumes using the DIRP MNT command.

4   As needed, assign STANDBY billing devices for TAPE and DPP/BMC.

5   If using SMDR, rotate the SMDR volume from the DIRP level of the MAP (this will ensure the RECORD HEADER is correct). If SMDR recording is on BMC and no standby volume is available, then mount a temporary STDBY TAPE volume. Rotate the BMC port OUT and back IN. Remove the tape volume after this is done.

    Note: Since some SMDR recording applications on BMC collect SMDR records based on the customer group ID only, this ensures that any changes to the customer group IDs are passed to the BMC upon rotate (and the RECORD HEADER is correct).

6   If using AFT, ensure process has started and all Active AFT sessions are in SENDING state. If needed, start AFT sessions manually.

```
> AFT
> STARTAFT <aft_session>
> QUERYAFT <aft_session>          {verify "SENDING" in status bar}
> QUIT
```

7   As needed, bring up PARALLEL devices.

8   Verify all regular and parallel devices are working for all available billing subsystems in DIRP.

8.5.6 Procedure 6 - Monitor logs after EABORT

1   **App/INACT** Monitor LOGS after the SWACT then do a LOGCHECK.

Note: The purpose of this step is to turn on *Active-side* logs at the terminal designated as the "INACT" device (since POSTSWACT is running on the ACT device). Any other terminal device may also be used. Logs can also be routed to a printer for the remainder of this session.

a.   `> LOGUTIL;OPEN SWCT;BACK ALL`
This prints out SWACT time, SWACT duration and other SWACT information.

b.   `> LOGUTIL;START`
This starts logs on "this" device. If a different terminal device is desired, then use >STARTDEV <device>.

c.   Let logs run for at least 30 minutes, then run LOGCHECK.

```
> LOGUTIL;STOP;QUIT
> BCSUPDATE;LOGCHECK;QUIT
```

d.   When LOGCHECK is done, start logs again and let run until monitoring is completed. (Repeat substep b.)

8.5.7 Procedure 7 - Do Test Calls EABORT

1　　**Site/ACT**　Verify all <u>Emergency Services</u> are functioning.

Then, perform the TEST CALLS that were identified ahead of time.
Refer to the *Test Call Scripts*.

2　　**Site and App/INACT**　If asked to do so by technical support and only with approval, dump an image of the *Inactive* (mate) side.

Only after this mate image is completed should the processors be put back in sync (next procedure).

8.5.8   Procedure 8 - After testing is complete SYNC SuperNode

<u>IMPORTANT!</u>—for CM card changes:

<u>If aborting a ONP/CM Card Replacement</u>—Once the Operating Company and Nortel Networks agree all tests have passed satisfactorily, the Applicator must <u>wait</u> to allow the on-site **Installer** to complete the following step:

- re-install the original hardware on the Inactive side CM shelf

- SYNC the switch when done

- return switch to the **Applicator** (who will complete POSTSWACT, *steps 1.b and 1.c below*)

1　　**App/ACT** POSTSWACT will STOP at step BEGIN_TESTING to allow the site to complete testing. When testing is complete, SYNC the CM processors as follows.

Note: Do not enter POSTSWACT again until the processors are in SYNC.

a.　　`> MAPCI;MTC;CM;SYNC`
　　　　`> YES`   *{for confirmation}*

　　　　`> QUIT MAPCI`

b.　　`> REXTEST SUSPEND ALL`

　　　　If in PRSM on CSP06 and higher:
　　　　`> AUTOPROC ALL STOP;AUTOPROC ALL DELAY`

　　　　These commands allow final activities to occur without interruption, including dumping an image of the new PCL.

c.　　`> POSTSWACT`   *{still in BCSUPDATE}*

At this point BCSUPDATE will run the remaining POSTSWACT steps and set them to "complete" when they pass. If any step fails, follow given instructions to correct the problem, then continue by typing: POSTSWACT.

8.5.9 Procedure 9 - Finish POSTSWACT EABORT

1   **App/ACT** Clean up SFDEV by erasing any application-related files (for example: FEATDATA, SITEINFO, and DIRP_INAC).

2   **Site/ACT** For security the operating company should verify passwords for users ADMIN and OPERATOR.

3   **Site/ACT** Reassign all current PROFILE information (LOGIN or RESTART) in SFDEV.

4   **Site/ACT** Reassign any temporary log ROUTING setup via LOGUTIL.

5   **App/ACT** If table PADNDEV was manually changed for mate-side patching, restore the original data in this table to point to the correct patch download device(s).

6   **Site/ACT** Reassign any changes in the INTEG level of the MAP (for example, UPTH, BUFFSEL, FILTER and others).

7   **Site/ACT** Return PORTS and USER information back to original values.

8   **Site/ACT** Notify DNC end users to LOGIN the DNC.

9   **Site/ACT** If Network Management code blocking was removed earlier, have Network Maintenance personnel restore code blocking active.

8.5.10 Procedure 10 - Start journal file

1 **Site/ACT** If equipped, start journal file and verify started.

a. `> JF START`

b. `> MAPCI;MTC;IOD;DIRP`

c. `> QUERY JF ALL`
QUERY JF should respond with "AVAIL." If a standby device is being used, both Active and standby volumes should be marked "AVAIL."

d. `> QUIT ALL`

8.5.11 Procedure 11 - Reset AutoONP steps

1   **App/ACT** Cancel the SWUPGRADE process and reset the AutoONP steps
on the current load to their original configuration.

```
> SWUPGRADE;CANCEL
```

Two confirmations will be required to continue.

```
> YES
```

```
> YES
```

2   *<u>CAUTION</u>: Watch the output messages on the TRACE DEVICE!*
The "Trace Device" will output messages informing the operator what steps
are being rolled back. Upon getting the messages:

   The SWUPGRADE process has paused. Enter GO or
   Type GO to resume CANCEL

The operator must type "GO" and press return on the ACT terminal until
getting the message:

   SWUPGRADE CANCEL is completed.
   You may now QUIT out of the SWUPGRADE increment.

3   **App/ACT** Quit the SWUPGRADE increment.

```
> QUIT
```

4   **App/ACT** Verify that tuple DUMP_RESTORE_IN_PROGRESS is set to "N"
in table OFCSTD.

```
> TABLE OFCSTD
> POS DUMP_RESTORE_IN_PROGRESS
```

If not "N" already, do:

```
> RWOK ON;OVE;VER OFF
> CHA 2 N
```

```
> QUIT ALL
```

End of Emergency Abort procedure.

9 AutoONP BULLETINS file guide

9.1 Target Audience

This section is designed as a guide for people who write and maintain the AutoONP BULLETINS file. The BULLETINS file is used to automate ONP bulletins and workarounds. This guide gives a quick overview of the AutoONP design approach and then describes how to maintain the BULLETINS file.

9.2 Contents

This section is composed of the following subsections. Search for these headings to find the required information.

AutoONP Summary

Design Approach

The BULLETINS File

Design of the BULLETINS File

Complete Example

9.3 AutoONP Summary

AutoONP was designed to automate many of the ONP steps used to perform the software upgrade on a DMS SuperNode switch. The Pre-Base07 ONP procedures require the applicator to issue about 150 manual commands and monitor their execution.

During the investigative phase all ONP steps were reviewed, which resulted in a reduction of required steps from 150 to about 60. Many steps were either obsolete or not required by the automated process.

AutoONP now maintains and executes the roughly 60 steps required to perform an ONP, from drop-sync to re-sync. Most steps are fully automated. There are, however, about 20 steps that require some form of manual interaction. Most of these are just confirmations, prompting the user before continuing a critical step. For a complete list of steps, refer to the AR1803 HLD document.

AutoONP is available if the dump-side is CSP06/Base07 and higher and is fully compatible with the traditional ONP process. All tools required to run the traditional process are still in place.

9.4 Design Approach

AutoONP maintains a list of steps to execute. These steps are executed in sequence. Whenever a step fails, the process stops, the user fixes the problem and then types 'GO' to continue until all steps have been executed.

The CI interface (alias SWUPGRADE) provides a user interface to control execution. It is non-blocking, i.e. the interface is always available to accept commands, even if a step is currently executing.

Steps are executed by the driver process. It receives messages from the CI to continue execution (GO, CONTINUE or RESUME) or to execute a specific step (RUNSTEP).

All step output is sent to the trace device (even if the step executes CI-commands). It is NOT possible for steps to read input from the terminal.

Steps can either be Protel procedures or CI-commands. CI-commands cause the driver process to tell the Disconnected User process to execute the command.

Steps can be set to execute either on the Active CM, Inactive CM or both at the same time. However, the Active side driver process is the one in control over the step execution sequence and handling of errors and other unexpected events.

In order to allow the process to handle configuration data (such as the name of the trace device, image name for ldmate, etc.), a set of about 15 environment variables are maintained to store this data. Environment variables are prompted for in the first step (SETUP_ENV_VARS) and their values are available to steps executing both on the Active or Inactive CM.

9.5 The Bulletins File

The BULLETINS file is designed to provide an automation to application bulletins and workarounds. It is a SOS exec which is read by step READ_BULLETINS, which is executed by AutoONP towards the beginning of the process. The functionality of the READ_BULLETINS step is equivalent to the CI-commands:

> SEND SINK;LISTSF ALL;SEND PREVIOUS;READ BULLETINS

This file must be maintained by the application group and must be downloaded to the switch's SFDEV during or before execution of AutoONP.

Step DOWNLOAD_FILES reminds the user to download this file (along with other required files). Note that this file must be named BULLETINS and reside on SFDEV.

Since the file is READ at the time READ_BULLETINS is executed, it can be used to perform two types of functions:

  - Execute CI-commands directly at that point. We suggest that a   version number is printed to the trace device.

  - Contain commands to INSERT CI-commands into the AutoONP process relative to existing AutoONP steps.

9.6 Design of the BULLETINS File

The BULLETINS file must have the following structure:

```
PRINT 'Processing BULLETINS file version 1.2'
PRINT ' '
SWUPGRADE
<CI-command>
<CI-command>
...
...
QUIT
SETRC SUCCESS
READ PREVIOUS
```

NOTE that the 'SETRC SUCCESS' and the 'READ PREVIOUS' on the last line of the file are VERY important, otherwise step READ_BULLETINS will fail.

The PRINT with the file version at the top of the file ensures that the trace device output shows which version of the file was actually run.

Typically, the BULLETINS file will be used to insert new steps into the AutoONP step list. These steps can perform one of two functions:

  - They can execute a specific set of CI-commands.

  - They can remind the user to perform a workaround and then   pause the process until the workaround is completed.

Some workarounds simply need to execute a specific CI-command. For example, it is determined that the CI-command 'REXTEST SUSPEND ALL'

should be executed before step STOP_JOURNAL_FILE. Currently, the above command is NOT part of the AutoONP process. You would include the following lines in the BULLETINS file:

INSERT REXTEST_SUSPEND BEFORE STEP STOP_JOURNAL_FILE ACT

REXTEST SUSPEND ALL

SETRC SUCCESS

ENDINSERT

This would execute 'REXTEST SUSPEND ALL' before step STOP_JOURNAL_FILE.

'INSERT' tells SWUPGRADE to insert a new step.

'REXTEST_SUSPEND' will be the name of the new step.

'BEFORE STEP STOP_JOURNAL_FILE' tells SWUPGRADE to insert the new step before the existing step STOP_JOURNAL_FILE ('BEFORE' can be replaced with 'AFTER').

'ACT' tells SWUPGRADE to run the step on the Active side of the switch ('ACT' can be replaced with 'INACT' to indicate that the step should be run on the Inactive side of the switch. Obviously, 'INACT' only makes sense for steps inserted somewhere between existing steps MATELINK_RTS and SWACT).

The INSERT command is then followed by a list of CI-commands to execute ('REXTEST SUSPEND ALL' in this case).

The SETRC command is a special command to set the return code of the step. This return code is passed back to SWUPGRADE and determines the action taken after the step executes. The values allowed for SETRC are:

SUCCESS — step succeeded, continue on to next step

PAUSE_FAIL — step failed, re-execute after 'GO'

PAUSE_REPEAT — step succeeded, but still re-execute after 'GO'

PAUSE_SKIP — step succeeded, but pause after the step

'ENDINSERT' tells SWUPGRADE that all commands for this new step have been entered. Essentially, all CI-commands between the 'INSERT' and the

'ENDINSERT' will become part of the new step. After typing DISPLAY
STEPS within SWUPGRADE, the new step should be displayed, along with
its CI-commands.

You may place multiple CI-commands on the same line, separated by
semicolons (";"). If there are CI-commands that require user confirmation
(YES/NO), simply put "YES" on the line following the command that
requires the confirmation.

You may 'quit' out of the middle of a sequence of ci-cmds (usually within
some if-then-else clause) by using the following syntax:

SETRC <code> (SUCCESS, PAUSE_FAIL, PAUSE_REPEAT or PAUSE_SKIP)
READ PREVIOUS

Some workarounds cannot be automated as in the above example. In this
case, you want to insert a step that prints messages to the trace device,
informing the user to perform some function, followed by a pause. Include the
following lines in the BULLETINS file:

INSERT CHECK_NNASST AFTER STEP TABLE_TRANSFER ACT
PRINT 'Please check for datafill failures in table NNASST.'
PRINT 'Correct any possible problems after contacting the'
PRINT 'site personnel.'
SETRC PAUSE_SKIP
ENDINSERT

This would print the messages shown on the trace device and then pause the
SWUPGRADE process after CHECK_NNASST has completed.

You may also put more complicated commands into inserted steps. The
following example will work:

INSERT CHECK_CRSFMT AFTER STEP CHECK_NNASST INACT
SEND SINK; ERASE A B C D; SEND PREVIOUS; FALSE -> D
SEND SINK;TABLE CUSTAB;SEND PREVIOUS;
(LOC CRSFMT) -> A
QUIT
IF (A) THEN (SEND SINK;TABLE CRSFMT;SEND PREVIOUS;
(LOC AMA) -> B

IF (B) THEN (ASSIGN FORMAT C;

(C = ' BCFMT ') -> D;))

IF (D) THEN (PRINT 'The tuple is set to BCAMA.') ELSE (

PRINT 'The tuple either is not present or not set to bcama.';

SETRC PAUSE_SKIP)

QUIT

ENDINSERT

9.7 Complete Example

Combining the above examples into a complete BULLETINS file would look like this:

```
PRINT 'Processing BULLETINS file version 1.2'
PRINT ' '
SWUPGRADE
%
INSERT REXTEST_SUSPEND BEFORE STEP STOP_JOURNAL_FILE ACT
REXTEST SUSPEND ALL
SETRC SUCCESS
ENDINSERT
%
INSERT CHECK_NNASST AFTER STEP TABLE_TRANSFER INACT
PRINT 'Please check for datafill failures in table NNASST.'
PRINT 'Correct any possible problems after contacting the'
PRINT 'site personnel.'
SETRC PAUSE_SKIP
ENDINSERT
%
INSERT CHECK_CRSFMT AFTER STEP CHECK_NNASST INACT
SEND SINK; ERASE A B C D; SEND PREVIOUS; FALSE -> D
SEND SINK;TABLE CUSTAB;SEND PREVIOUS;
(LOC CRSFMT) -> A
QUIT
IF (A) THEN (SEND SINK;TABLE CRSFMT;SEND PREVIOUS;
(LOC AMA) -> B
IF (B) THEN (ASSIGN FORMAT C;
(C = '  BCFMT ') -> D;))
IF (D) THEN (PRINT 'The tuple is set to BCAMA.') ELSE (
PRINT 'The tuple either is not present or not set to bcama.';
SETRC PAUSE_SKIP)
QUIT
ENDINSERT
%
QUIT
SETRC SUCCESS
READ PREVIOUS
```

The above file would print the message 'Processing BULLETINS file version 1.2' at the time the BULLETINS file is read (i.e. while step READ_BULLETINS is executing) and then insert 3 new steps into the process, with the second step followed by a pause.

Before step STOP_JOURNAL_FILE the command 'REXTEST SUSPEND ALL' is executed with the process continuing on to the next step (unless the REXTEST command failed). After TABLE_TRANSFER, the given message would then be printed to the trace device and the process would pause. The user would manually perform whatever is needed, then REMOVE the pause (REMOVE PAUSE AFTER STEP CHECK_NNASST) and type GO to continue the process. Step CHECK_CRSFMT would then test the existence and value of the AMA tuple in table CRSFMT and print an appropriate message.

NOTE that the BULLETINS file MUST NOT contain any blank lines (since the DMS file system prohibits this). Therefore, to make the BULLETINS file more readable, you may use comments ('%') as in the above example.

Ensure that each change to the BULLETINS file is tested before being used on a live site in order to ensure that it does not contain any errors and provides the intended functionality. Also, don't forget to increment the version number in the PRINT command at the top of the file each time a change is made.

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10 Appendix A: Command Summaries

10.1 Using TABAUDIT and AUTOTABAUDIT

Checking tables for data inconsistencies before a software upgrade is necessary to ensure that all tables are free of datafill errors and each table has valid data. This is accomplished by running TABAUDIT. This tool is designed to thoroughly verify the integrity of table data on a DMS switch. TABAUDIT will be executed on the Active side with the DMS switch in sync. TABAUDIT will only allow one session to be Active at any one time.

CAUTION
Review Software Delivery Bulletins and all current
Warning Bulletins concerning TABAUDIT before using it.

10.2 TABAUDIT

10.2.1 About TABAUDIT

TABAUDIT will verify DMS tables by performing a series of checks on the tables and on the data in the tables. Following is a list of the types of checks that are performed on each table:

- Generic table checks,

- Syntax checks,

- Table specific checks, including routing checks

The generic table integrity checks consist of verifying that each table has a top and a bottom and that no tuples exist beyond these boundaries. Tables are also checked to ensure that no infinite tuple loops exist.

Syntax checks are done on a per tuple basis. Each field in a tuple is checked against its data dictionary definition in order to ensure data validity. These checks are modified to use the logical tuple definition and not the custflds representation.

The routing checks are only performed on tuples that reference routing tables. This type of check verifies the tuple being referenced in the routing tables.

Table-specific checks are done on a per-tuple basis. This type of check verifies the tuple's data for valid data options. (This is implemented using verify procedures in table control software.)

TABAUDIT help
The TABAUDIT increment is used to set up a standard session of TABAUDIT. The increment consists of the following subcommands:

INCLUDE EXCLUDE STATUS RPORT CLEAR EXECUTE

AUTO QUIT HELP INFO

From within the TABAUDIT increment type:

  HELP <subcommand>

for further help on subcommand.

Note: the AUTO subcommand is used to enter the AUTOTABAUDIT increment. To set up the TABAUDIT process:

1. Use the INCLUDE command to specify the range of tables to be verified.

2. Use the EXECUTE command to activate the TABAUDIT process.

Following is a typical scenario:

```
> INCLUDE ALL
> EXECUTE
```

These commands will cause all tables on the DMS to be verified.

TABAUDIT examples
Example 1 -- Executing TABAUDIT on a single table.

```
CI:
> TABAUDIT
Enters the TABAUDIT increment.

TABAUDIT:
> INCLUDE <table_name>
Where <table_name> is the name of the table to be verified.

TABAUDIT:
```

```
> EXECUTE
```
Response first shows a STATUS. If correct, confirm with "YES" when prompted. TABAUDIT now executes the various data integrity checks on each tuple of the table.

```
TABAUDIT:
> REPORT <table_name>
```
To view the TABAUDIT results.
```
TABAUDIT:
> QUIT
```
Leaves the TABAUDIT increment.

Example 2 -- Executing TABAUDIT on a range of tables.

```
CI:
> TABAUDIT
```
Enters the TABAUDIT increment.

```
TABAUDIT:
> INCLUDE FROM <start_table> TO <stop_table>
```
To specify a range of tables according to Table DART,

or

```
TABAUDIT:
> INCLUDE <table_name(s)>
```
To specify the table or tables to verify. A series of tables to be included can be specified on a single line with each table_name being separated by a space.

```
TABAUDIT:
> EXECUTE
```
Response first shows a STATUS. If correct, confirm with "YES" when prompted. TABAUDIT now executes the various data integrity checks o each tuple of the table.

```
TABAUDIT:
> REPORT ERRORS
```
To view the TABAUDIT results.

```
TABAUDIT:
> QUIT
```
Leaves the TABAUDIT increment.

Note: Use the CLEAR command to clear the list of included tables.
```
  TABAUDIT:
  > CLEAR INCLUDED
```

Example of TABAUDIT execute

```
TABAUDIT:
> EXECUTE


------------------------------------------------------
|                                                    |
|                   TABAUDIT STATUS                  |
|                                                    |
------------------------------------------------------


The following tables are INCLUDED:

   table OFCOPT (17)

The following tables are EXCLUDED:

   From table ACTPATCH (0)                to table OFCSTD (16).
   From table OFCENG (17)                 to table OCFPORT (927).

Please confirm ("YES", "Y", "NO", or "N"):

> yes
Creating TABAUDIT summaryfile: SUMMARY$MODEM on SFDEV.
Starting DMS data verification ...

Table OFCOPT: New table control.
Completed tuple checking.
SUMMARY: Tbl OFCOPT: tuples checked 95, passed 95, failed 0.

Data verification is complete.
```

10.2.2 TABAUDIT enhancements (BCS36 and higher)

In BCS36 features were introduced to facilitate TABAUDIT's usage by:

- automating TABAUDIT based on a scheduled time table.

- implementing a report facility that will

  — report tables that have not been checked.

  — report the time and date of the last check performed on a table.

  — report table specific data errors including routing errors.

  — report syntax errors.

  — report generic table integrity errors such as false tops, bottoms and holes in tables.

- linking TABAUDIT and TABXFR in order to identify data issues before data move is started.

- adding a PRECHECK step in the BCSUPDATE increment to check which tables in DART have been verified by TABAUDIT.

10.2.3 About AUTOTABAUDIT

This BCS36 feature provides an automated TABAUDIT process, AUTOTABAUDIT. Once the initial parameters are entered, AUTOTABAUDIT has the ability to check data integrity without external guidance. The results of the data checks are maintained, and can later be displayed via a report utility.

AUTOTABAUDIT does not generate reports for each table as the table is being verified the way TABAUDIT does. Instead, all report data may be accessed via the report utility. TABAUDIT, in addition to generating reports as tables are verified, is altered so that such data may be accessed in the same manner as AUTOTABAUDIT's data, by way of the report utility.

The automation of TABAUDIT via a schedule provides the user with the ability to set a time frame within which TABAUDIT should be running. The schedule that governs TABAUDIT execution is based on a 24 hour clock cycle. TABAUDIT activates daily to verify tables' data integrity during a specified time frame until all data is verified. The user may also specify the date on which the TABAUDIT is to be started and stopped by the scheduler.

The parameters required to initiate AUTOTABAUDIT are entered via the AUTO level of the TABAUDIT increment. The AUTOTABAUDIT setup allows the user to specify tables to be verified, when the verification is to take

place, the type of data integrity report, and the report's destination. Following are the various functions added by this feature:

- Schedule the verification of a single table in DART.

- Schedule the verification of a range of tables in DART.

- Schedule the verification of all tables in DART.

- Generate a data integrity report for all tables in DART.

- Generate a data integrity report for all verified tables.

- Generate a list of tables that have not been checked by TABAUDIT.

- Generate a data integrity report for a single table.

- Display the status of the scheduler.

- Activate or deactivate the scheduler.

- Clear scheduling information.

- Have the ability to specify select tables to be included in a table range

- Have the ability to specify select tables not to be checked.

AUTOTABAUDIT uses table DART for the order in which to verify tables' data integrity. Table DART, if not previously sorted, is sorted using the dump and restore ordering in advance of any data integrity checks.

AUTOTABAUDIT may be in one of two states:

- Active: The scheduler is executing TABAUDIT during specified time frames.

- Inactive: The scheduler is not executing TABAUDIT, and execution of TABAUDIT is not scheduled.

For standard TABAUDIT the STATUS command displays the range of tables included and excluded. The ALL option can be used to display all tables included and excluded. For AUTOTABAUDIT the STATUS command displays the current parameters being used by the scheduler. The parameters that are displayed consist of: all included table ranges and their indices, the start time, the start date, the stop time, the stop date, whether or not AUTOTABAUDIT is currently active, and current table. If the ALL option is used, the parameters that are displayed consist of: the all included and excluded tables and their indices, the start time, the start date, the stop time, the stop date, whether or not AUTOTABAUDIT is currently active, and current table.

When executing AUTOTABAUDIT the current information the TABAUDIT session is working with is displayed. The user is asked to confirm the data. If data is missing, the user is told what data is missing. If for some reason a session of TABAUDIT can not obtain the resources it requires, the user is notified that the AUTOTABAUDIT session was terminated, and for what reason.

When QUITing out of a standard TABAUDIT session, the user loses that session's parameters. When QUITing out of an AUTOTABAUDIT session, the user is placed back in the standard TABAUDIT increment, and as long as the automated session is active, the session parameters are preserved.

All data that AUTOTABAUDIT captures is stored in protected store. This includes table statistics (time, date and error counts), and the keys of tuples containing errors.

AUTOTABAUDIT has a couple of restrictions. Sessions of AUTOTABAUDIT and TABAUDIT can be running at the same time, however; only one session can be verifying a specific table at a time. Two sessions of AUTOTABAUDIT can not both be running at any given instant. Furthermore, once an AUTOTABAUDIT session is active, no changes can be made to the session's parameters without first terminating the session.

AUTOTABAUDIT help
The AUTOTABAUDIT increment is used to set up a scheduled session of TABAUDIT. The increment consists of the following subcommands:

INCLUDE EXCLUDE STATUS REPORT CLEAR TIMEFRAME

EXECUTE TERMINATE QUIT HELP INFO

From within the AUTOTABAUDIT increment type:

  HELP <subcommand>

for further help on subcommand.

To set up the AUTOTABAUDIT process:

1. Use the INCLUDE command to specify the range of tables to be verified.

2. Use the TIMEFRAME command to specify when the AUTOTABAUDIT process is to verify the specified range of tables.

3. Use the EXECUTE command to activate the AUTOTABAUDIT process

Following is a typical scenario:

```
> INCLUDE ALL
> TIMEFRAME 2:20 1999:11:22 5:30 1999:11:28
> EXECUTE
```

These commands will cause all tables on the DMS to be verified between the
specified hours during the specified range of days.

AUTOTABAUDIT examples

The following commands will enter the TABAUDIT increment at the AUTO
level, set the time frame within which the session will execute, and specify the
range of tables that will be verified.

```
> TABAUDIT
TABAUDIT:

> AUTO
AUTOTABAUDIT:
```

This level of the TABAUDIT CI is used to setup a scheduled session of
TABAUDIT. The TIMEFRAME command is used to specify the time frame
within which the verification of tables is to be performed.

```
AUTOTABAUDIT:

> TIMEFRAME 1:00 1999:06:30 5:00 1999:07:05
Is the following schedule correct?

AUTOTABAUDIT is to execute from 1:00
to 5:00 between the following dates:

Start date: 1999/06/30
Stop date: 1999/07/05

Please confirm ("YES", "Y", "NO", or "N"):
> Y

> INCLUDE FROM  LTCINV TO KSETFEAT

> EXECUTE
```

```
+----------------------------------------------------------------------+
|                                                                      |
|                         AUTOTABAUDIT STATUS                          |
```

```
|                                                                          |
|--------------------------------------------------------------------------|
|  Active Timeframe                      | Executing Timeframe             |
|--------------------------------------------------------------------------|
|    Start              Stop             |   Start               Stop      |
|    Date               Date             |   Time                Time      |
|--------------------------------------------------------------------------|
|  1999/06/30           1999/07/05       |   1:00                5:00      |
+--------------------------------------------------------------------------+
|                                                                          |
            Current time           : 1999/06/23  16:32:05
            AUTOTABAUDIT           : Inactive

         The following tables are INCLUDED

             From table LTCINV (52)           to table KSETFEAT (420)

         The following tables are EXCLUDED

             From table DART (0)              to table XLIUMAP (51)
             From table DNINV (421)           to table CNMDBTST (1115)

         Please confirm ("YES", "Y", "NO" or "N"):
         > Y

         AUTOTABAUDIT has been activated.
|                                                                          |
+--------------------------------------------------------------------------+
```

Reporting utility

The report utility is initiated by the CI command, REPORT command in the TABAUDIT directory. This command has five options:

- CHECKED
- NOTCHECKED
- ALL
- INCLUDED
- ERRORS
- <table_name>

The report utility's CHECKED function generates a list of all tables that have been checked, the time and date of the last check, as well as the number of each type of error encountered. At the end of the report, the total number of errors encountered and the amount of time TABAUDIT required to perform the checks are displayed.

The report utility's NOTCHECKED function generates a list of all tables that have not been verified.

If the ALL function is specified, a full report of all tables in table DART is generated indicating whether the table has been checked, the table has been checked and passed verification, or the table has been checked, but an error has been encountered. The number of errors, the error types, and time and date of data verification are indicated. For every table, each failed tuple's key is listed. The output may be directed to a specific device. In addition, at the end of the report, the total number of errors and the total amount of time that TABAUDIT was executing are displayed.

The INCLUDED function generates a report of all tables in a specified includes list. The report details whether or not a table has been checked, and whether or not it passed all checks. If a check failed, the number of each type of error, time and date of the check as well as the failed tuples key are displayed. In addition, at the end of the report the total number of errors encountered in the tables in the includes list, as well as the total amount of time TABAUDIT was executing are displayed.

The ERRORS function is identical to the ALL function except reports are generated only for those tables known to have errors.

If a table name is specified, a report of that table's data integrity is generated. The number of errors, the error types, and time and date of data verification will be indicated. The key of each tuple that failed is displayed.

TABXFR linking

If all data issues have not been resolved and rechecked by TABAUDIT before a data move is attempted, a warning is displayed. The types of warnings are:

- WARNING - ## tables have not been verified by TABAUDIT.

- WARNING - ## errors encountered by TABAUDIT.

- WARNING - ## tables not checked by TABAUDIT within the last 30 days.

Note: ## represents an integer.

Refer to the report utility to determine which tables cause the warnings above.

PRECHECK step

Use the Precheck step "TABAUDIT_VERIFY_TABLES" in the SWUPGRADE READY increment to determine if TABAUDIT has been executed and to identify any tables with recorded errors. The result of this

Precheck step provides a brief TABAUDIT status and displays the following messages:

- WARNING - ## tables not checked by TABAUDIT.

- WARNING - ## errors encountered by TABAUDIT.

- WARNING - ## tables not checked by TABAUDIT within the last 30 days.

Note: ## represents an integer.

Refer to the reporting utility to determine which tables cause the above warnings.

10.2.4 AUTOTABAUDIT enhancements (Base08 and higher)

Base08 enhancements to AUTOTABAUDIT provide users with a further automated TABAUDIT process, enhanced scheduling capabilities and timeframe specification, and a flexible human-machine interface.

The enhancements to AUTOTABAUDIT can be broken down as follows:

Enhancement to AUTOTABAUDIT scheduling capabilities
- Allow iterative execution of the automated TABAUDIT during the specified timeframes without human interaction.

- Allow TABAUDIT to start in the middle of a timeframe.

- Make TABAUDIT contention free with image dump and TABXFR, etc.

Enhancements to Human-Machine Interface (HMI)
- Option to exclude tables which are not transferred during the One Night Process (ONP).

- Option to include all previously failed tables.

- Option to include all tables which have been modified since the last audit.

- Capability to specify timeframe with daily, weekly and monthly options

- Capability to modify timeframes through table control.

- Allow users to clear failure information for those tables which will never pass the check.

- Allow all users to enter AUTOTABAUDIT level and check the execution status, but only one user can issue the execute command and terminate an active AUTOTABAUDIT session.

Enhancements to Reporting Capabilities

- Correct the report command to show corrupted tables (i.e. no top, no bottom, holes etc.).

- Enhance the report command to display all tables modified since the last audit.

- Eliminate the generation of a TABAUDIT output file on SFDEV when a non-SFDEV volume is specified in the **EXECUTE** ci command.

Man machine interface (MM)

The following CI commands of the TABAUDIT CI have been modified. (The changes are shown with change bars.)

The INCLUDE command

The include command is used to specify the range of tables to be verified by TABAUDIT. The modified command will allow users to specify all failed / changed tables. The syntax will be:

INCLUDE   ALL

        | FROM <table1> [TO <table2>]

        | FAILED

        | CHANGED

        | <table>

Examples:

> INCLUDE FAILED   % Include all the failed tables from the last audit

> INCLUDE FROM termdev TO ltcinv   % Include table termdev to ltcinv

> INCLUDE CHANGED   % Include tables changed since last audit

The EXCLUDE command

The exclude command provides users the ability to specify a table that is not to be checked by TABAUDIT. The enhanced command will also provide users the option to disallow all non D/R tables (excluding the dynamic tables) to be checked by TABAUDIT. The syntax of the command will be enhanced as follows:

EXCLUDE   <table>

        | NODR

Examples:

> EXCLUDE linestat   % Exclude table linestat

> EXCLUDE NODR   % Exclude all non dump and restore tables

The CLEAR command

The clear command is used to clear the included table list and the scheduled timeframes. The new modified command will also allow users to clear table failure information. The syntax will be:

Manual TABAUDIT: CLEAR   INCLUDED

                  | FAILED <table>

Auto TABAUDIT: CLEAR   INCLUDED

                  | SCHEDULE {ALL | ONE}

                  | ALL

                  | FAILED <table>

Examples:

> CLEAR SCHEDULE ALL   % Clear all specified timeframes

> CLEAR FAILED linestat   % Clear error information for table linestat

The TIMEFRAME command

The timeframe command is used to specify the start time and stop time for automated TABAUDIT processing activities. The modified command will provide users the option to specify the weekday in the timeframes. The syntax will be changed accordingly to:

TIMEFRAME   SINGLE <start time> [<start date>] <stop time> [<stop date>]

              | DAILY <start time> <stop time>

              | WEEKLY <start time> {MON|TUE|WED|THU|FRI|SAT|SUN}

              | MONTHLY <start time> <day of month> <stop time>
               <day of month>

Note: The duration of the timeframe can not exceed six hours. For monthly option, the 31st day of each month is not allowed.

Examples:

>TIMEFRAME WEEKLY 08:00 MON 10:00 MON

    % Run every Monday 8:00 - 10:00 am

>TIMEFRAME WEEKLY 23:00 FRI 02:00 SAT

    % Run every week between 23:00 Friday to 2:00 Saturday

>TIMEFRAME DAILY 08:00 10:00

    % Run everyday 8:00 - 10:00 am

>TIMEFRAME SINGLE 11:20 12:30

% Start at 11:20 and stop at 12:30 today

>TIMEFRAME MONTHLY 07:00 07 09:00 07

% Run 7th of every month from 7:00 to 9:00

The REPORT command

The report command is used to generate audit result reports. Users can generate reports for all included tables, all tables with errors, all tables checked, all tables not checked, or all tables in table DART. The new report command will allow users to view the tables changed since the last audit. The modified syntax of the command is:

REPORT   NOTCHECKED [<device>] [<filename>]

          | CHECKED [<device>] [<filename>]

          | INCLUDED [<device>]

          | ERRORS [<device>]

          | ALL [<device>]

          | CHANGED [<device>] [<filename>]

          | <table> [<device>] [<filename>]

Examples:

> REPORT CHANGED   % Report all tables changed since last audit

> REPORT ofcvar vol2 errfile   % Generate errfile for table ofcvar on vol2

> REPORT INCLUDED vol1   % Report on all included tables on vol1

> REPORT ERRORS   % Report on all tables with errors

> REPORT NOTCHECKED   % Report on all tables not checked

> REPORT CHECKED   % Report on all tables checked

Some examples of the report are shown as follows:

The report format for the options checked, included, all, errors, and <table>:

DART Table Name	Table Control	Checked	Pass	Fail	Start Time	Elapsed Time
0:VERSIONS	New	124	124	0	1996/07/06 23:31:22.55:	11.567

Total Number of Tables Reported for this report option: 1
Total Number of Passed Tuples for this report option: 124
Total Number of Failed Tuples for this report option: 0
Total Number of Verified Tuples for this report option: 124
Total Elapsed Time to verify the above tables: :11.567

The report format for the option notchecked:

DART Table Name	Table Control	Checked	Pass	Fail	Start Time	Elapsed Time
1:ACTPATCH	New	: Table has not been checked.				
2:VRINV	New	: Table has not been checked.				
3:SOCVAR	New	: Table has not been checked.				
4:SOCFEAT	New	: Table has not been checked.				
5:SOCOPT	New	: Table has not been checked.				

Total Number of Tables Reported for this report option: 5
Total Number of Passed Tuples for this report option: 0
Total Number of Failed Tuples for this report option: 0
Total Number of Verified Tuples for this report option: 0
Total Elapsed Time to verify the above tables :   :00.000

The report format for the option changed:

DART Table Name	Table Control	Changed
0:VERSIONS	New	Table has been changed
3:SOCVAR	New	Table has been changed
5:SOCOPT	New	Table has been changed

Total Number of Tables Reported for this report option:3

The AUTO command

The auto command is used to place users in the automated TABAUDIT level. Currently, only one user can be in the AUTOTABAUDIT level.

The syntax of this command is:

AUTO

The modified command will allow any users to enter the automated TABAUDIT level, display the status of execution and print the report, even if there is a user already at the automated TABAUDIT level. The restriction of allowing only one user to invoke the **EXECUTE** ci command is still in effect. The syntax of the command will not be changed.

Restrictions/limitations

The new CI command Report changed is used to show all the tables that changed since the last audit. However, tables changed due to side effects may not be reported by this command.

The enhanced timeframe command can specify the monthly execution of AUTOTABAUDIT. However, it does not allow to specify the 31st day of a month by the monthly option.

The duration of the timeframe is restricted to maximum six hours.

10.3 DARTEDIT command syntax

DARTEDIT — Enters the DARTEDIT increment to enable the following commands.

PRINTDART <mode>

Where <mode> can be:

SHORT — Prints a compact listing of tables in DART. (default)

LONG — Lists tables in DART in a single column format.

Examples:

```
> PRINTDART SHORT
Table DART:
 000 N DART 001 N OKPARMS 002 E DATASIZE 003 N SYSDATA 004 E OCCNAME
 005 E OCCINFO          006 E HNPACONT 007 N OFCSTD  008 N OFCOPT
 009 OFCENG 010 E CRSFMT  011 E CLLI    012 E NNASST  013 E SITE
 014 E CMSHELF...

> PRINTDART LONG
Table DART:
 000 N DART
 001 N OKPARMS
 002 E DATA SIZE
 003 N SYSDATA
 004 ED OCCNAME
 005 E OCCINFO...
```

10.4 Delta command syntax

The DELTA command is used to display the difference (delta) of a given table that exists on the Active (old) load and Inactive (new) load. This command has been enhanced for offices upgrading from CSP10/Base11 (and higher loads).

Offices upgrading from CSP09/Base10 (and lower)

The "old" DELTA command will display any tuples that do not match including those that have been change, added, or deleted.

For example:

```
> DELTA OFCSTD
Table OFCSTD
    Tuples do not match.  Old Count = 83,  New Count = 81.
**ADDED   AUDVLOWGREQ 120

**OLD     BCS_NUMBER 39 0
**NEW     BCS_NUMBER 42 0

**OLD     CPSTACKSIZE 1504
**NEW     CPSTACKSIZE 2000

**ADDED   E911_NPD_TO_NPA_CONV_IN_EFFECT N

**DELETED CONSOLE_SILO_CHARS 510
**DELETED CONSOLE_SILO_RECORDS 20
**DELETED CUG_REGION 0
**DELETED MTCBASE_EXTRAMSG 1024
** Total mismatches are 8.
```

Offices upgrading from CSP10/Base11 (and higher)

The "new" DELTA command takes into account any requested PARM changes made by the FEATDATA file during the TABXFR process. If the FEATDATA file exists on the new load (Inactive side) SFDEV and the DELTA command is used, the following three scenarios will exist:

•   If the new load value "matches" the FEATDATA value there will be no output displayed since there is no "difference."

•   If the new load value does not match the FEATDATA value then all three values will be displayed: old, new, and FEATDATA.

Example:

```
**OLD        CPSTACKSIZE 1504
**FEATDATA   CPSTACKSIZE 2000
**NEW        CPSTACKSIZE 1504
```

or

```
**OLD        CPSTACKSIZE 1504
**FEATDATA   CPSTACKSIZE 1504
**NEW        CPSTACKSIZE 2000
```

or

```
**OLD        CPSTACKSIZE 1200
**FEATDATA   CPSTACKSIZE 1504
**NEW        CPSTACKSIZE 2000
```

and

```
**ADDED      E911_NPD_TO_NPA_CONV_IN_EFFECT N
**FEATDATA   E911_NPD_TO_NPA_CONV_IN_EFFECT Y
```

• If there is no FEATDATA value then the old and new values will be displayed if there is a "difference."

Example:

```
**OLD        CPSTACKSIZE 1504
**NEW        CPSTACKSIZE 2000
```

and

```
**ADDED      E911_NPD_TO_NPA_CONV_IN_EFFECT N
```

Note: The FEATDATA file is used by the DELTA command automatically if it exists on the Inactive SFDEV. This occurs for every invocation of DELTA regardless of the table being compared. This ensures any table with tuples in FEATDATA will be handled appropriately.

Command syntax

DELTA <table> <delta level> <file option>

Where <table> is the name of the table to be checked. For a sub-table use for the table name:

[<table> SUB <subtable>]

<delta level> can be:

COUNT — Checks the number of tuples in both tables.

KEYS — Does a checksum on the keys of the tuples.

CHECKSUM — Does a checksum on the tuples (default).

And <file option> can be:

FILE — Sends results to a file on SFDEV called DELTA$REPORT (default).

NOFILE — Displays the terminal without creating a file.

On CSP10/Base11 the following option is available:

NOFEATDATA — Displays the differences between the old and new loads disregarding the featdata information.

Note: If the DELTA command is invoked using the COUNT or KEYS delta levels, FEATDATA is not used regardless of inclusion of the NOFEATDATA option.

OLDDELTA command

Enhancements to the DELTA command beginning with CSP10/Base11 (and higher) loads make it necessary to use the OLDDELTA command when investigating table differences after an office has SWACTed to the new load but before SYNCing the processors. The OLDDELTA command is only valid on CSP10/Base11 (and higher) loads. Use this command to display table differences between the new load and CSP09/Base10 (and lower) loads. Do not use the "new" DELTA command for this purpose since it will not recognize the old load table(s).

The syntax is similar to the DELTA command above however NOFEATDATA is not an option.

OLDDELTA <table> <delta level> <file option>

10.5 TABXFR summary

In BCS35 and higher the TABXFR increment is used to dump and restore tables. This is also known as the "data transfer."

10.5.1 Interrupt TABXFR procedure

Procedure 1
Interrupt TABXFR

During the data transfer the user can stop the TABXFR process two different ways: HALT is to be used most of the time; whereas, HALT NOW can be used to stop the data transfer of a long table.

Note: For the ACTREST platform the following commands are the same, except on the *Active* side.

1   **App/INACT** To *halt* TABXFR, on the <u>Inactive</u> terminal enter:

   `Mate > HALT`   *{must be in TABXFR increment}*
   TABXFR process will halt after the current table is completely moved. This will not interrupt tables in the process of being moved.

---

2   To *stop* TABXFR during the data transfer of a long table, on the <u>Inactive</u> terminal type:

   `Mate> HALT NOW`   *{in TABXFR}*
   TABXFR process will halt immediately, even in the middle of the table.

---

3   To *restart* the data transfer use the STARTXFR command. This starts from the last table successfully completed.

   To restart TABXFR, on the <u>Inactive</u> terminal enter:

   `Mate> STARTXFR`   *{still in TABXFR}*

---

4   **ACT** You may, instead, ABORT (stop and reschedule) the application by typing on the <u>ACTIVE side</u>:

   `> BCSUPDATE;ABORT_PRESWACT`
   Resets DUMP_RESTORE_IN_PROGRESS bool in OFCSTD to "N"

   `> TABXFR;CANCEL`
   Enables Patcher/PRSM and turns on AUTODUMP and AUTOPATCH

   `> QUIT ALL`

10.5.2 TABXFR syntax

TABXFR — Enters the TABXFR increment to enable the following commands.

TABXFR subcommands are as follows:

SETUP <options> — Set up and initialize the type of platform used to perform the data transfer.

   Where <options> can be:

  STANDARD — Standard split switch application.

  DUMPONLY — Setup to perform the dump part of the dump and restore. This is for dumping data to tape.

  ACTREST — Perform the restore part of the dump and restore (data transfer). This restores data from tape to the Active side (i.e. restore to split cm mode).

  THIRDPRO — Third processor-assisted data transfer.

STOPIF — Sets the number of failures allowed for a table. If this threshold is reached then the data transfer stops at the end of the table. (Range is 0 to 4294967296.)

LIMIT — Sets the number of failures allowed for a table. If this threshold is reached then the data transfer stops (whether the table has completed or not). (Range is 0 to 4294967296.)

STATUS — Displays information about the setup and status of the data transfer.

STARTXFR — Starts the data transfer process. It starts after the last completed table or at the beginning if no tables have been completed.

XFRONLY <table> — Performs a data transfer on the specified table only.

XFRFROM <table_name> — Starts a data transfer from the specified table.

> **CAUTION**
> **XFRFROM places TABXFR control into a more manual state.**
> Use of the command may cause automatic processes to be bypassed,
> effecting transfer accuracy.

Using XFRFROM

- If XFRFROM is to be used, for whatever reason, it must be used through the entire TABXFR process.

  Transfer errors and logs can result if STARTXFR and XFRFROM are used interchangeably.

- XFRFROM must be used with the data found in Table DART—after TABXFR has returned the process message:

  "Table DART is now sorted"

  Table DART, after sorting, has each table associated with a number. <DART_number> <status> <table_name>

  For example: <u>0023</u> E OFCENG

  These numbers represent the order TABXFR will transfer all the tables. When using XFRFROM, the Applicator is responsible to follow this order.

  ****

  Note:
  XFRFROM must be used *only with non-recursive tables!* XFRFROM will skip tables if used on recursive tables.

  Recursive tables are identified by the following message text:

  "Table is recursive. Verify that any <table_name> data failures apply when table is run again later."

  ****

- An errored non-recursive table may call many recursive tables before STOPIF can halt the transfer process.

- The non-recursive table logged as attempting transfer immediately before the recursive table(s) is the table which called them.

- As non-recursive tables reach STOPIF and are repaired, note the DART number of the table to be repaired. The table with the next higher DART_number is the table to be used with XFRFROM, once the errored table has been acceptably transferred.

DUMP	—	Performs just the dump portion of the data transfer. (Only available after issuing the SETUP DUMPONLY command.)
RMOUNT	—	Mounts the device to be used for the Active restore.
RDEMOUNT	—	Demounts the device being used for the Active restore.
RCOPY	—	Copies a file from the restore device to SFDEV.
DATASYNC	—	Manipulates the Data Synchronization. (Only available after issuing the SETUP THIRDPRO command.)
HALT	—	Stops the data transfer after the current table is completed.
HALT NOW	—	Causes the data transfer to halt immediately, after the current tuple.
CLEAR	—	Clears the specified table. This only works with tables that have a transfer type of PHYSICAL in table DART.

STOPXFR <stop_options>

Where <stop_options> can be:

BEFORE <table>	—	Stops TABXFR before given table.
AFTER <table>	—	Stops TABXFR after given table.

CLEAR BEFORE <table> —Clears the stop before given table.

CLEAR AFTER <table> — Clear the stop after given table.

QUERY — Lists all STOPs.

CANCEL — Cancels the data transfer. Entered on Active side after any type of ABORT. Turns on AUTODUMP and AUTOPATCH.

REPORT — Generates a final data transfer report. This will include a table exception report and (with BCS36 and lower) an NTX package delta.

XREPORT — Creates a table exception report only.

NTXDELTA — Performs a delta of the NTX packages on the old and new loads (with BCS36 and lower).

QUIT — EXIT the TABXFR increment.

10.6 SWUPGRADE summary

The SWUPGRADE increment includes several platforms and the end user has access to only one platform at a time. Each platform enables various commands used for the software upgrade process and automates the bulk of the work involved in applying new PCL software on a DMS office.

The primary platforms of the SWUPGRADE increment are:

CM   — Command interface into the CM platform used to perform the AutoONP (available on CSP06 and higher).

PM   — Command interface into the PM platform used to perform automated PM upgrades (available on CSP07 and higher).

READY   — Command interface into the READY platform used to perform Pre-Application checks (available on CSP08 and higher).

CMMOCK   — Command interface into the CMMOCK platform used to perform Customer Applied Mock ONPs (available on CSP11 and higher).

XAC   — Command interface into the XAC platform used to perform the AutoONP on XA-Core provisioned offices (available on CSP12 and higher).

10.6.1 SWUPGRADE increment

The SWUPGRADE increment is used to perform an automated Software Upgrade of a DMS switch. The SWUPGRADE CI-commands described in this section are valid for the CM/SLM and XA-Core upgrade targets only. The other SWUPGRADE targets (such as PM) are available with different subsets of commands.

The increment consists of the following subcommands:

CANCEL	CLEAR	DISPLAY	EXIT	HELP
INSERT	OVERRIDE	PAUSE	PROMPTING	QUIT
REMOVE	RESET	RESUME	RUNSTEP	SET
START	STATUS	SWUPGRADE	XFRFROM	XFRONLY

Note: INSERT and RUNSTEP become available only after START.

CANCEL command

Cancels a platform session. The CANCEL command reverts all
SWUPGRADE steps and returns the switch to its original state. Also used to
switch from one SWUPGRADE platform to another, for example from
READY back to PM or CM.

CAUTION
This command will cancel all work done by SWUPGRADE so far.
Once canceled SWUPGRADE has to be re-started. Use the PAUSE
command for halting the SWUPGRADE temporarily.

NO PARAMETERS.

CLEAR command

Clears (removes all tuples from) the specified table on the INACTIVE side.
This only works with tables which have a transfer type of PHYSICAL in table
DART.

The parameter is:

<table name> - The name of the table to be cleared.

DISPLAY/DISP command

Displays (on the trace device) logs, pauses, steps, or variables as specified.

The options are:

LOGS [ACT or INACT]   — Displays the counts of the logs specified in the
                               variable (defined during the setup phase), for the
                               active or inactive CM. (The default is: INACT)

 (CSP10->)

LOG <log name> <n> [ACT or INACT]   — Displays the content for n
                               most recent records in specified log, either for the
                               active or inactive (The default is: INACT).

PAUSES   — Displays all pauses in the active step list.

STEPS   — Displays all steps and their associated status.

 (CSP09->)

VAR ALL	— Displays all variables and their corresponding values. If no value is allocated, a blank is displayed.
VAR <var name>	— Displays the value of a variable. If no value is allocated, a blanks is dispalyed.
(CSP06-08)	
VARS	— Displays all variables and their corresponding values. If no value is allocated, a blank is displayed.

EXIT command

Halts the setup step currently executing. Upon issuing the START command again, the user is prompted for the last variable requested before the EXIT was issued.

Note: This command is valid ONLY when a setup step is executing.

NO PARAMETERS.

HELP command

Displays information on the SWUPGRADE commands, the steps, the variables, or the SWUPGRADE increment.

The options are:

<swupgrade command>	— Displays a brief description and the syntax of that command.
STEP <step>	— Displays a brief description of the behavior of that step.
VAR <variable>	— Displays a brief description and the current value of that variable.
(no parameters)	— Displays a brief description of the SWUPGRADE increment and lists the available CI commands.

INSERT command

Inserts a new step or copies an existing step into another location in the step list.

The parameters are:

<new step>	— New step name.

BEFORE or AFTER   — Inserts before or after the reference.

STEP or TABLE   — Inserts relatively to a step or a table.

<old step> or <table>   — Existing reference step or table name.

ACT or INACT   — CM side on which the new step is executed.

Note: CI commands for a new step are prompted for on successive lines and terminated by a double carriage return.

OVERRIDE/OVE command
Overrides the execution of a single step or a subset of steps.

The options are:

UPTO <step>   — Overrides from the current step up to the specified step.

<step>   — Overrides a single step.

Note: (CSP10) If the specified step is found to be a BCSUPDATE step, a message will direct the user to access BCSUPDATE to access the step.

PAUSE command
Halts the execution of SWUPGRADE until the RESUME command is issued. If no parameters are specified the execution is paused immediately. However, it is possible to delay the pause until later.

The options are:

BEFORE STEP <step name>— Pauses before the given step.

AFTER STEP <step name> — Pauses after the given step.

BEFORE TABLE <table name> — Pauses before the given table.

AFTER TABLE <table name> — Pauses after the given table.

NOW   — Pauses the table transfer immediately.

(no parameters)   — Pauses as soon as possible.

PROMPTING command
Turns the prompting mode ON or OFF.

The options are:

ON   — Turns the prompting mode on.

OFF   — Turns the prompting mode off and resumes the
                                       execution in the automatic mode.

QUIT command

Quit from the SWUPGRADE level and return to the last increment entered
before going into SWUPGRADE.

NO PARAMETERS.

REMOVE command

Removes user-inserted steps and pauses from the active step list.

The options are:

PAUSE {BEFORE,AFTER} STEP <step name>
                                       —   Removes a step pause.

PAUSE {BEFORE,AFTER} TABLE <table name>
                                       —   Removes a table pause.

STEP <step name>   — Removes a single step.

PAUSES   — Removes all pauses.

STEPS   — Removes all inserted steps.

ALL   — All inserted pauses and steps.

RESET command

Resets a single step or multiple steps, i.e. sets the status to NEEDED, so the
step(s) can be re-executed.

The options are:

ALL   — Resets all the steps, including the PRESWACT
                                       steps.

FROM <step>   — Resets the specified step and all the subsequent
                                       steps.

<step>   — Resets a single step.

Note: (CSP10) If the specified step is found to be a BCSUPDATE step, a
message will direct the user to access BCSUPDATE to access the step.

RESUME/CONTINUE/GO command

Resumes the execution of the Software Upgrade after a PAUSE.

Note: This command is disallowed while the Driver is running.

Aliases: CONTINUE and GO.

NO PARAMETERS.

RUNSTEP command

Runs or executes a specific step.

The parameter is:

<step name>   — name of the step to execute individually.

SET command

Sets a variable to a given value.

The parameters are:

<variable>   — variable to set.

<value>   — value to assign to the specified variable.

NOTE: A <value> consisting of more than one word must be enclosed in quotes.

    Example 1: SET LOGS 'TRAP SWERR'

    Example 2: SET TRACE_DEVICE MAP

START command

Starts the Software Upgrade by executing the steps in the active step list in a sequential fashion starting with the first one.

The START command is only used to initially start the process. To continue after the process has paused, use GO, RESUME or CONTINUE.

NO PARAMETERS.

STATUS command

Displays SWUPGRADE status information, such as whether the driver is running or not and which step or table is being processed.

NO PARAMETERS.

SWUPGRADE command

The SWUPGRADE increment is used to perform an automated Software Upgrade of a DMS switch. Type HELP for a list of commands available from this CI increment. This command also sets up the specified platform, which must be entered as a parameter the first time the increment is entered.

The parameter is:

<platform>   — the type of software delivery upgrade to perform.

XFRFROM command

Begins transferring tables from the specified table.

The parameter is:

<table name>   — the table at which to begin transferring.

XFRONLY command

Transfers only the specified table.

The parameter is: <table name>   —   the individual table to transfer.

10.6.2 SWUPGRADE READY

A new DMS resident tool was introduced in CSP08 called SWUPGRADE READY. The tool is resident to the DMS in the SWUPGRADE Utility and extends the SWUPGRADE increment to include the READY platform. This tool allows the end-user the ability to perform a Pre-Application check on an office and can be used by the Operating Company to determine site readiness for a PCL upgrade. The tool should be used when preparing for a PCL upgrade *from* CSP08 loads and higher.

SWUPGRADE READY commands

The increment consists of the following subcommands:

CANCEL	CLEAR	DISPLAY	EXIT	HELP
INSERT	OVERRIDE	PAUSE	PROMPTING	QUIT
REMOVE	RESET	RESUME	RUNSTEP	SET
START	STATUS	SWUPGRADE	XFRFROM	XFRONLY

Note: INSERT and RUNSTEP become available only after START.

For descriptions of the above subcommands see previous section "SWUPGRADE increment." From within the SWUPGRADE READY increment type:

HELP <swupgrade command>: for further help on a subcommand.
HELP STEP <step_name>   : for further help on a step.
HELP VAR < variable name> : for further help on a variable.

SWUPGRADE READY steps

The following is a list of the steps executed by SWUPGRADE READY for offices on CSP13 or higher and a brief description of each.
Note: Some steps do not exist on earlier loads and/or the step names have been changed.

Step Name: SETUP_ENV_VARS

SETUP_ENV_VARS prompts the user for values and sets the environment variables used during the SWUPGRADE READY session. This step causes the process to pause until RESUME, GO or CONTINUE is entered.

NOTE: Values consisting of more than one word MUST NOT be enclosed in quotes. If they are, the quotes will be considered as part of the word and the variable will either be set to an incorrect value or not set at all.

The environment variables and their default values are:

TRACE_DEVICE   [(no default)]
LOGS   [TRAP SWERR CM CMSM MS]
TO_CSP_CM_LOAD   [(no default)]
PM_VERIFY_FILE   [NONE]
PRINTER   [SINK]
PAUSE_ENABLED   [YES]

Step Name: VERIFY_SN_PECS_INFO

Displays whether the CM and MS PEC CODE and release information are not gating items. See the appropriate PM Software Release Document to check compatibility. This step fails if any CM or MS pec card has a "NO" in the "COMPATIBLE" field.

Step Name: VERIFY_LOGS_ INFO

Displays logs provided in the environment variable LOGS. These logs should be checked and examined periodically for front-end stability. Include or exclude any log(s) the user would like displayed.

Step Name: CHECK_MEMORY

Displays the amount of physical, logical, spare, and available memory in the site. The amounts are displayed in one Meg equivalents.

Step Name: DEVICE_CHECK

Verifies that all devices on the active CPU are in an OK, OFFLINE, or UNEQUIPPED status. These are acceptable states for SWACT. Any devices found in any other state are displayed.

Step Name: TABAUDIT_VERIFY_TABLES

Verifies that TABAUDIT has been executed and tables to be dump and restored have been audited in the last thirty days.

Step Name: DISPLAY_PERIPHERAL_LOAD_NAMES

Displays information regarding peripherals. Information includes: peripheral type, node number and status of units 0 and 1. Also displays load names for each equipped MPC, STC, DCH and DPP.

NOTE: If this step fails, the user should review the output for any PM LOAD NAME of "Unknown".

Step Name: DISPLAY_PRL_LOADS

Provides information stored in the. NT7X05 Peripheral Remote Loader card. The PRL Load and Image information must match the corresponding host PM load(s). This step will fail if the above criteria are not met.

Step Name: CHECK_ISN_PMS

Messages all SOS based ISN PMs to retrieve their current software level and version. This step will pass if all ISN PMs contain the same or higher software level as the TO_CSP_LOAD environment variable.

Step Name: DISPLAY_MS_FW_LOADS

Displays the load in the 9X17 Chain Cards. Used to verify the 9X17 loads listed are correct for the new software load.

Step Name: VERIFY_PM_LOAD_NAMES

Queries all Peripheral Modules with downloadable software and verifies that each PM is loaded with a load specified in the PM_VERIFY_FILE. The

PM_VERIFY_FILE is a PM to PM LOAD cross-reference file that list PM loads for a given CSP load.

Step Name: LIUINV_CHECK

Ensures the largest number of a specific LIU type defined in table LIUINV does not exceed the maximum LIU type size that is 512.

Step Name: C7LINK_CHECK

Checks table C7LINK to ensure that the field LINKNAME is datafilled with all MSB7 or LIU7 peripherals but not a mixture of either type peripheral.

Step Name: CHECK_LTCINV

Checks DTCs, in table LTCINV, datafilled for CCS7 (i.e. field OPTATTR equals "CCS7") to ensure XPM load name and processor compatibility.

Step Name: DISPLAY_NOP_USERS

Displays all NOP/MPC users and their status.

Step Name: DISPLAY_DPP_VERSION

Displays DPP hardware and software info and DPP Status.

Step Name: CHECK_LCMINV

Verifies memory on LCM(s) match MEMSIZE field entry in table LCMINV. Also verifies entries in this table have a corresponding LCM which is in-service.

Step Name: READY_STATUS

Used to display the step states and their status.

Step Name: READY_COMPLETE

Reminds the user to quit the SWUPGRADE increment and QUIT from the switch after the READY program is completed.

ONPREADY command

A new Site Readiness feature was introduced in CSP11 to provide the user with a stand-alone command called ONPREADY. The ONPREADY command runs outside of the SWUPGRADE framework and executes all of the SWUPGRADE READY steps sequentially and continuously. The new command allows the SWUPGRADE READY steps to run concurrently with the other platforms provided by SWUPGRADE.

The SWUPGRADE command increment includes several platforms and the end user has access to one platform at a time. For example, if the SWUPGRADE PM platform is in use, the user has to cancel out of this platform in order to execute the SWUPGRADE READY platform. However, the ONPREADY command is always available. This feature allows the user to use the ONPREADY command to execute the same steps as the SWUPGRADE READY command.

Command syntax:

ONPREADY [<Options:>{STATUS, HELP, RESET}]

The STATUS option displays the step status and the times the step was last run. The last column displays the total execution time of the steps.

The HELP option displays information about ONPREADY and the purpose for the environment variables.

The RESET option resets all the step statuses back to needed and resets the time they executed back to 0.

When entered, the ONPREADY command will display the default environment variables and ask the user "Do you wish to use these settings?" A "Yes" response will execute all the SWUPGRADE READY steps that have been bound into ONPREADY. A "No" response causes the ONPREADY CI to prompt the user for any changes. The default value is listed in brackets to the right of the prompt. A nil entry defaults the environment variable to the default entry.

Examples:

```
CI:
> ONPREADY HELP
This command executes all SWUPGRADE READY steps.
It is used to PRECHECK an office prior to a Software
Upgrade or ONP.
```

```
Environment variables:
----------------------
 LOGS: - include or exclude any log or logs that
 the user would like displayed.

 TO_CSP_LOAD: - allows the user to set which CSP
 load that the site plans for their next software upgrade.

 PM_VERIFY_FILE: - a file name which references a
 file used by step VERIFY_PM_LOAD_NAMES to compare
 peripheral loads in this site. This step verifies
 the peripheral loads do exist in this file.

 PRINTER: - used to redirect the output of this CI
 to another device such as a terminal or printer.

 PAUSE_ENABLED - YES: pause execution on step failures.
                 NO: execute all steps non-stop.

> ONPREADY RESET
> ONPREADY STATUS


Procedure Name                     Status    Start Date/Time
==============                     =======   =================
DISPLAY_PEC_INFO                   needed    Time Unavailable
CHECK_LOGS                         needed    Time Unavailable
CHECK_MEMORY                       needed    Time Unavailable
DEVICE_CHECK                       needed    Time Unavailable
DISPLAY_PERIPHERAL_LOAD_NAMES      needed    Time Unavailable
DISPLAY_PRL_LOADS                  needed    Time Unavailable
DISPLAY_DEVICE_AND_USER            needed    Time Unavailable
CMIC_LINKS_CHECK                   needed    Time Unavailable
TABAUDIT_VERIFY_TABLES             needed    Time Unavailable
LIUINV_CHECK                       needed    Time Unavailable
CHECK_LTCINV                       needed    Time Unavailable
C7LINK_CHECK                       needed    Time Unavailable
DISPLAY_NOP_USERS                  needed    Time Unavailable
DISPLAY_DPP_VERSION                needed    Time Unavailable
CHECK_RCCINV                       needed    Time Unavailable
CHECK_LCMINV                       needed    Time Unavailable
VERIFY_PM_LOAD_NAMES               needed    Time Unavailable
DISPLAY_MS_FW_LOADS                needed    Time Unavailable
CHECK_ISN_PMS                      needed    Time Unavailable

> ONPREADY
The current environment variables are set to the following:
```

```
Variable Name              Value
------------------------------------------
LOGS                       [TRAP SWER CM CMSM MS INIT]
TO_CSP_LOAD                [12]
PM_VERIFY_FILE             [NONE]
PRINTER                    [SINK]
PAUSE_ENABLED              [Y]


Do you wish to use these settings?
Please confirm ("YES", "Y", "NO", or "N"):
> N
Enter the value for LOGS [TRAP SWER CM CMSM MS INIT].
> CMSM INIT IOD
Enter the value for TO_CSP_LOAD [0].
> 13
Enter the value for PM_VERIFY_FILE [NONE].
> PRECHECK13$FILE
Enter the value for PRINTER [SINK].
>
Enter the value for PAUSE_ENABLED [YES].
> NO


SETUP COMPLETED.
>
```

Note: After setup all SWUPGRADE READY steps get executed
continuously until all steps have completed. A summary list of
COMPLETED or FAILED steps is displayed after ONPREADY completes.

10.7 BCSUPDATE summary

The BCSUPDATE increment and commands are described below. This is followed by a "PRESWACT Abort" procedure, which is referenced by the ONP procedures. The SWACT commands are described separately in the final section of this appendix, "CC WarmSWACT summary."

10.7.1 BCSUPDATE increment

The BCSUPDATE increment is used to enable commands for a BCS application. BCSUPDATE increment commands perform the bulk of the work involved in applying new PCL software on a DMS office.

From within the BCSUPDATE increment type:

> HELP   : for list of all possible commands.
> HELP <bcsupdate command>: for further help on a subcommand.

BCSUPDATE commands

The following commands are available within BCSUPDATE:

PRECHECK   — Perform a series of pre-application checks (prechecks) used to determine if an office is ready for the software upgrade.
Parms:

[<Executes until complete:>{NONSTOP}]

PRESWACT   — Perform the BCS application by invoking the application driver. The command may be used repeatedly.

LIMITED_PRESWACT   — Performs necessary checks to prepare office for a Non-BCS upgrade RESTARTSWACT. This command should not be used to prepare for a BCS upgrade RESTARTSWACT.

STATUS   — Display status of PRECHECK, PRESWACT, LIMITED_PRESWACT, or POSTSWACT. Displays what critical steps have been completed and those still needed.
Parms:

<Which process:> {PRESWACT, POSTSWACT, PRECHECK}

RESET   — Resets status of all procedures to NEEDED so BCSUPDATE can be re-executed.

SWCT	—	Enable CC WarmSWACT commands. In BCS31 this command became available only as an increment of BCSUPDATE.
SWACTCI	—	Enter the SWACTCI Command Level. Same as SWCT (this changed to SWACTCI in BCS33).

Note: Commands for switching activity are available as increments of the SWACTCI/SWCT level. Refer to the section, "CC WarmSWACT summary" for details of SWACT commands.

POSTSWACT	—	Recovery functions following SWACT.
OVERRIDE	—	Override the execution of a procedure. Set a failed PRECHECK, PRESWACT or POSTSWACT procedure to COMPLETED. This should be used with caution. Only those steps that have been investigated and pose no threat to the current application should be set completed by this command. Parms: <Procedure name:> STRING
DATADUMP	—	Displays office information (implemented in BCS31).
RUNSTEP	—	Execute individual PRECHECK or PRESWACT steps. Starting in BCS34 this also works for POSTSWACT steps. CAUTION! Also see next command. Parms: <Procedure name:> STRING
ABORT_PRESWACT	—	(BCS35 and higher) Runs recovery steps to abort PRESWACT or to recover after a RUNSTEP is used to run one or more of the PRESWACT steps. Both PRESWACT and RUNSTEP will set the DUMP_RESTORE_IN_PROGRESS bool in OFCSTD to "Y." After a RUNSTEP (if done out-of-process) the Applicator must run ABORT_PRESWACT to reset the bool to "N".
DEVICE	—	Display device and user information.
LOGCHECK	—	Display traps and various logs.

PMAUDIT   — Creates a file containing PM load names and patches. If a file name is not specified, PMAUDIT$FILE will be used.
Parms:

    [<file name> STRING]

ONPSTATS   — Display time values for ONP Steps.
Parms:

<FUNCTION> {PRINT, SAVE <FILENAME> STRING
[<DEVICE> DEVICE name]}

TABLE_COUNTS   — Display various tables and their tuple counts.

DISPLAY_SLM   — Determine and display the type of SLM devices in an office, if any.

PAUSE   — Command to manipulate the PRESWACT and POSTSWACT processes by halting the execution of the process BEFORE/AFTER a step.
Parms:

<Pause> {BEFORE <Process> {PRESWACT <Step> STRING,
POSTSWACT <Step> STRING},
AFTER <Process> {PRESWACT <Step> STRING,
POSTSWACT <Step> STRING},
CLEAR <Pause> {BEFORE <Process> {PRESWACT <Step> STRING,
POSTSWACT <Step> STRING},
AFTER <Process> {PRESWACT <Step> STRING,
POSTSWACT <Step> STRING}},
QUERY <Process> {PRESWACT,POSTSWACT}}

QUIT   — Exit the BCSUPDATE increment.

10.7.2 PRESWACT Abort procedure

> *ATTENTION: This procedure is not applicable when using SWUPGRADE to perform the software upgrade. If using SWUPGRADE, refer to the appropriate use of the "CANCEL" command to terminate (abort) the application.*

When manually performing software upgrades using BCSUPDATE (not SWUPGRADE), it may be necessary to STOP and reschedule the application after TABXFR or PRESWACT has been initiated, but before the switch of activity (SWACT). If this is the case perform the following steps to restore the Active side to its original state.

1　**App/ACT** Reset the TABXFR process:

```
> TABXFR;CANCEL
```
```
> YES                                              {for confirmation}
```
```
> QUIT
```

2　**App/ACT** For all PCLs perform the following command:

```
> BCSUPDATE;ABORT_PRESWACT
```
```
> YES                                              {for confirmation}
```
```
> QUIT
```

3　**App/ACT** Verify that all PRESWACT steps are set to "needed":

```
> BCSUPDATE;STATUS PRESWACT
```

If all steps are not set to "needed" then

```
> RESET
```
```
> YES                                              {for confirmation}
```
```
> QUIT
```

—continued—

PRESWACT Abort procedure   (continued)

4   **App/ACT** Verify that tuple DUMP_RESTORE_IN_PROGRESS is set to "N"
in table OFCSTD:

```
> TABLE OFCSTD
> POS DUMP_RESTORE_IN_PROGRESS
```

If not set to "N" then

```
> RWOK ON;OVE;VER OFF
> POS DUMP_RESTORE_IN_PROGRESS;CHA 2 N

> QUIT ALL
```

5   **App/ACT** For SuperNode CM/SLM Sync the switch or for
SuperNode XA-Core Unsplit the system:

For SuperNode CM/SLM:

```
> MATELINK BSY

> MAPCI;MTC;CM;SYNC

> QUIT ALL
```

For SuperNode XA-Core:

```
> MATELINK BSY

> TASTOOLCI

> UNSPLIT_SYSTEM
```

Note: Unsplitting the switch may take a little while.

```
> QUIT ALL
```

6   **App/ACT** Start the journal file process:

```
> JFSTART
```

10.8 CC WarmSWACT summary

SWitch of ACTivity (SWACT) is a generic term referring to a process by which activity is switched between two processors.

"CM SWACT" is the switch of activity between the processors in the Computing Module (CM) of the DMS-Core.

"CC WarmSWACT" refers to a controlled SWACT process where a sequence of steps is executed to ensure minimal degradation call processing.

Note: Only "simple" 2-port and echo calls that are in a stable talking state (that is, not in a transition state such as dialing) will survive a CC WarmSWACT. Survival means that the call is kept up until the next signaling message is received (hopefully, for example, a terminate message, but on any other message as well, such as an attempt to use the conference feature). See Appendix B for an optional procedure for testing call survivability over a CC WarmSWACT.

NORESTARTSWACT (NRS) is a type of CM SWACT that avoids a restart of the CM. The service interruption for this option is less than 30 seconds. The use of NORESTARTSWACT is explained below under "CC WarmSWACT commands."

The three parts in this section are divided as follows:

1. Explanation of CC WarmSWACT and its major steps

2. Explanation of CC WarmSWACT commands

3. Explanation of CC WarmSWACT logs

10.8.1 CC WarmSWACT steps

CC WarmSWACT is a method by which a new software load can be efficiently activated in a DMS-100F switch. It ensures a controlled activity switch while minimizing degradation of service to the subscriber. To achieve this goal the process performs the following steps.

- Precheck to ensure the environment is right for the intent (e.g., switch is out of sync and Inactive side is not jammed)

- Establish communication between the two CPUs

- Obtain required semi-dynamic data from the Active CPU and transfer it to the Inactive CPU

- Setup and allocate required resources to transfer dynamic data (e.g., originating and terminating party of calls being supported)

- Stop call processing. Freeze everything so nothing can change while activity is being switched

- Obtain and transfer all dynamic data

- SWitch ACTivity from the Active CPU to the Inactive CPU

- Perform additional checking to ensure sanity of new CPU and initiate recovery

- Insert the dynamic data that was transferred before the SWACT

- Resume call processing

- Cleanup and deallocate any resources used to execute the CC Warm-SWACT

10.8.2 CC WarmSWACT commands

The commands required to perform/monitor/report a CC WarmSWACT are as follows.

SWCT (BCS32 or lower)—directory where all commands for CC Warm-SWACT may be found. User must be in the BCSUPDATE directory to go to this directory in BCS31 and BCS32, i.e., BCSUPDATE;SWCT

System Response: Prompt changes to SWCT:

SWACTCI (BCS33 and higher)—same as SWCT but was changed in BCS33 to distinguish CC WarmSWACT from XPM SWACT.

System Response: Prompt changes to SWACTCI.

QUIT—gracefully exits SWCT/SWACTCI CI increment.

System Response: Prompt returns to previous state.

FORCESWCT/FORCESWACT—displays, enables or disables the ability for the newly Active CPU to switch activity back to the previously Active CPU if an abnormal condition exists (more than 10% of PMs on the newly Active side are not OK). FORCESWCT for BCS32 or lower. FORCESWACT for BCS33 and higher.

Optional parameter:

- no parameter queries the status of FORCESWCT/FORCESWACT (IN EFFECT or NOT IN EFFECT is displayed).

- ON forces activity to stay on the newly Active CPU even if an abnormal condition exists. This is the default setting.

- OFF allows activity to switch back if the abnormal condition exists. This should not be used unless the user definitely does not want to stay on the newly Active CPU to correct problems, etc.

System Response: Log is produced when ON/OFF optional parameter is used (SWCT104).

LOADEXECS—displays, enables or disables the exec loading process which occurs after a CC WarmSWACT to download new execs to the PMs for call processing. This command has been obsoleted in BCS35 or greater.

Optional parameter:

- no parameter queries the status of LOADEXECS (ENABLED or DISABLED is displayed).

- ON enables exec loading. This is the default setting and is required when performing a CC WarmSWACT between different BCSs, i.e., BCSn -> BCSn+, BCSn+ -> BCSn.

- OFF disables exec loading after CC WarmSWACT. This should not be used unless the user definitely understands the implications of not downloading execs to PMs after a CC WarmSWACT.

System Response: Log is produced when ON/OFF optional parameter is used (SWCT104).

DISP/DISPLAY—displays information regarding CC WarmSWACT. DISP in BCS30 or lower. DISPLAY in BCS31 and higher.

Optional parameter:

- BADNODES will display all hardware devices whose status is NOT OK or OFFLINE on the Active side of the switch.

- MISMATCH displays mismatches found from comparing device statuses between the Active side and the Inactive side of the switch.

- SWCTTIME (SWACTTIME in BCS35 and higher) displays all times collected for CC WarmSWACT (SWCT101 time, EXECTIME, RECVTIME).

- ALARM has been obsoleted in BCS33 and beyond.

System Response: Information is displayed to terminal.

QUERYSWACT—this command checks the office configuration to determine which CC WarmSWACT command (RESTARTSWACT or NORESTARTSWACT) should be used.

System Response: If the office supports NORESTARTSWACT the response is as follows:

"NORESTARTSWACT is recommended for initiating a CC WarmSWACT. Further checking will be done when SWACT is invoked."

Otherwise, the following message is displayed:

"RESTARTSWACT must be used for initiating a CC WarmSWACT."

NORESTARTSWACT—this command executes the CC WarmSWACT process and performs all of the necessary prechecks to activate the CC WarmSWACT. PRESWACT steps of BCSUPDATE must all be executed successfully before a NORESTARTSWACT will be allowed. This command is valid only in BCS36 and greater.

Optional parameter:

- NOMATCH will disable the matching of device statuses between the Active and Inactive sides of the switch. WARNING: Do not use this option unless there is no other choice. Device statuses after the CC WarmSWACT are not guaranteed hence several devices may be out of service after the CC WarmSWACT.

System Response: The steps being executed as part of the CC WarmSWACT will be displayed to the terminal and logs will be generated (SWCT102). SWACT will occur. If a NORESTARTSWACT cannot be executed in this office the following message will be displayed:

"RESTARTSWACT should be used instead of NORESTARTSWACT. NORESTARTSWACT command aborted."

RESTARTSWCT/RESTARTSWACT—this command executes the CC WarmSWACT process and performs all of the necessary prechecks to activate the CC WarmSWACT. In BCS31 and greater the PRESWACT steps of BCSUPDATE must all be executed successfully before a RESTARTSWCT/RESTARTSWACT will be allowed. RESTARTSWCT in BCS32 and lower. RESTARTSWACT in BCS33 and higher.

Optional parameter:

- NOMATCH will disable the matching of device statuses between the Active and Inactive sides of the switch. WARNING: Do not use this option unless there is no other choice. Device statuses after the CC WarmSWACT are not guaranteed hence several devices may be out of service after the CC WarmSWACT.

System Response: The steps being executed as part of the CC WarmSWACT will be displayed to the terminal and logs will be generated (SWCT102). SWACT will occur followed by a COLD restart. If a NORESTARTSWACT is supported by this office the following message will be displayed which requires a YES/NO response from the user:

"NORESTARTSWACT should be used instead of RESTARTSWACT. Do you wish to continue with RESTARTSWACT?"

ABORTSWCT/ABORTSWACT—this command executes the CC WarmSWACT process and performs all of the necessary prechecks to activate the CC WarmSWACT. In BCS31 and lower the RESTARTSWCT command should be used in place of this command. This command does not require PRESWACT to be performed before execution. This command should only be used when aborting a BCS application. ABORTSWCT in BCS32 and lower. ABORTSWACT in BCS33 and higher.

Optional parameter:

- NOMATCH will disable the matching of device statuses between the Active and Inactive sides of the switch. WARNING: Do not use this option unless there is no other choice. Device statuses after the CC WarmSWACT are not guaranteed hence several devices may be out of service after the CC WarmSWACT.

- NOCHECK will override the requirement for all devices to be OK before a CC WarmSWACT. Therefore a device can be CBSY for instance and the CC WarmSWACT will still be allowed. Available in BCS34 and higher. WARNING: Use this option only as a last choice after exploring other choices.

System Response: The steps being executed as part of the CC WarmSWACT will be displayed to the terminal and logs will be generated (SWCT102). SWACT will occur followed by COLD restart.

STATUSCHECK—this command matches statuses for devices between the Active and Inactive side of the switch. It verifies that the STATUSUPDATE step executed in PRESWACT was successful.

System Response: A SWCT109 log is generated for each type of device that has passed the STATUSCHECK process. A SWCT110 log is generated for each type of device that has failed the STATUSCHECK process. Each device of the failed type that mismatches is displayed to the terminal.

MODCHECK—this command checks for necessary CC WarmSWACT application modules on the Inactive side and outputs any modules which are

missing. Missing modules will cause the CC WarmSWACT to fail and therefore must be investigated or overridden via the OVERRIDE option to MODCHECK. This command is valid in BCS32 and beyond.

Optional parameter:

• no parameter invokes checking for all CC WarmSWACT application modules.

• OVERRIDE will disable the checking for requested missing modules and hence disable the functions performed by those CC WarmSWACT applications.

• RESET will enable the checking for requested missing modules and hence enable the functions performed by those CC WarmSWACT applications.

System Response: SWCT113 log will be output if MODCHECK is successful. SWCT114 log will be output if MODCHECK fails. SWCT115 log will be for every missing module. SWCT116 log will be output for every module for which the OVERRIDE/RESET options are used.

RESUMEPM—should not be used. This is a very dangerous command and should only be used by qualified personnel.

System Response: Some PMs may go SYSB. Do not use this command.

RESTOREXECS—this command will load execs to any or all PM types.

CAUTION
This command should only be used in emergency situations
by qualified personnel.

Non optional parameter:

• <PM_TYPE> {TM, LM, DCM, RLM, XPM, ALL}

System Response: PM type(s) chosen will have execs loaded. No response to terminal.

10.8.3 CC SWACT logs

SWCT101—Information log only. This log does not indicate a service affecting problem. Displays the WarmSWACT time.

SWCT102—Information log only. This log does not indicate a service affecting problem. Indicates which CC WarmSWACT step successfully completed.

SWCT103—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates which CC WarmSWACT step failed.

SWCT104—Information log only. This log does not indicate a service affecting problem. Indicates a condition or state of the CC WarmSWACT process.

SWCT105—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates why a CC WarmSWACT step failed.

SWCT106—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates the underlying problem of why a CC WarmSWACT step failed.

SWCT107—Information log only. This log does not indicate a service affecting problem. Indicates that exec loading occurred successfully to the reported PM type. This log has been obsoleted in BCS35 and beyond.

SWCT108—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates that exec loading failed to the reported PM type. This log has been obsoleted in BCS35 and beyond.

SWCT109—Information log only. This log does not indicate a service affecting problem. Indicates that a STATUSCHECK application passed.

SWCT110—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates that a STATUSCHECK application failed.

SWCT111—Information log only. This log does not indicate a service affecting problem. Indicates that the PRELOAD_EXECS step of PRESWACT completed successfully.

SWCT112—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates that PRELOAD_EXECS failed for an XPM, one log will be reported for every XPM that failed.

SWCT113—Information log only. This log does not indicate a service affecting problem. Indicates that the MODCHECK command passed successfully.

SWCT114—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates that the MODCHECK command failed.

SWCT115—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates which modules are missing on the Inactive side according to the MODCHECK command, one log will reported for every missing module.

SWCT116—Information log only. This log does not indicate a service affecting problem. Indicates that a module has been OVERRIDDEN/RESET for checking by the MODCHECK command.

SWCT117—Information log only. This log does not indicate a service affecting problem. Displays information about the CC WarmSWACT process.

11 Appendix B: Supplementary Procedures

11.1 PRESWACT DIRP and billing procedures

Where applicable and when prompted to do so by the SWUPGRADE process step "PRESWACT_DIRP_AND_BILLING" prior to switch of activity (SWACT), perform procedures 1-6. Site and Applicator can work together to prepare the PRIMARY DIRP billing subsystems for the office SWACT:

If the PRIMARY billing is on <u>DPP/BMC</u> perform procedure 1
If the PRIMARY billing is on <u>DISK</u> perform procedure 2
If the PRIMARY billing is on <u>TAPE</u> perform procedure 3
If office is using Automatic File Transfer (<u>AFT</u>) perform procedure 4
For all other <u>DIRP billing</u> preparation perform procedure 5
For Parallel DIRP preparation see procedure 6

Note: Offices equipped with SDM do not require any preparation.

Procedure 1 - DPP/BMC PRIMARY billing

If primary billing is on DDP or BMC systems, perform the following. Make note of the following information for reference:

```
> MAPCI NODISP;MTC;IOD
> LISTDEV MTD;DIRP                      {data to use when remounting}
> QUERY AMA                            {Note the STANDBY volume}
```

<u>IMPORTANT</u>: *Ask operating company personnel if any of the tape devices defined in table DIRPPOOL are <u>poll-able devices</u> (excluding parallel tapes); and if so, then what vendor? The following may apply to not only AMA, but also SMDR or other DIRP subsystems. This step only covers the example for AMA. <u>Do not continue until all tape devices are verified</u>.*

This step does <u>not</u> apply to other vendors' poll-able devices (such as PDU, CGI, ECU, and others).

In a pool of 'DPP or BMC volumes, field DEVTYPE in table DIRPPOOL should be 'DPP' (not 'TAPE').

This step is <u>not</u> for BMC/TAPE COMBO.

This step does <u>not</u> apply to parallel volumes.

Note: While performing this step, it may be convenient to have other devices mapped up in the display mode.

If <u>DPP</u> perform procedure 1a below.

If <u>BMC</u> perform procedure 1b below.

a.   DPP AMA preparation

*For the following commands, <**x**> is the STANDBY volume.*

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT DPPAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Verify the STANDBY volume is mounted before continuing.

```
> ROTATE AMA
> YES
> QUERY AMA
```

Make note of the new STANDBY volume.

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT DPPAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Ensure *both* <u>Active and STANDBY</u> are mounted and <u>IOD alarms</u> (AMA/DPP) are cleared in the MAP level before continuing.

```
> DPP AMA
> IDXMAINT CREATE FILE AMA
> YES
```

Verify in the MAP level that there are no IOD alarms as a result of this step.

```
> QUIT MAPCI
```

b.   BMC AMA preparation

Perform this substep only if *both* Active and Standby are BMC (*not* BMC and Tape).

For the following commands, <x> is the STANDBY volume.

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT BMCAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Verify the STANDBY volume is mounted before continuing.

```
> ROTATE AMA
> YES
> QUERY AMA
```

Make note of the new STANDBY volume.

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT BMCAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Ensure *both* Active and STANDBY volumes are mounted.

Verify in the MAP level that there are no IOD alarms as a result of this step.

```
> QUIT MAPCI
```

Procedure 2 - PRIMARY billing on DISK

If primary billing is on a disk perform the following.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY AMA                          {Note the STANDBY volume}
```

ROTATE any Active billing subsystem (such as AMA SMDR OCC CDR).

Example:
```
> ROTATE AMA
> YES
> QUERY AMA                                        {to verify rotated}
```

If required by operating company policy copy unprocessed DIRP files to back-up tape (using DIRPAUTO or DIRPCOPY commands).

Verify that table DIRPHOLD contains no unprocessed billing files (if DIRPAUTO was used above).

Procedure 3 - PRIMARY billing on TAPE

If primary billing is on a tape perform the following.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY AMA                          {Note the STANDBY volume}
```

ROTATE any Active billing subsystem (such as AMA SMDR OCC CDR).

Example:
```
> ROTATE AMA
> YES
> QUERY AMA                                        {to verify rotated}
```

CLOSE the STANDBY file, and DMNT the STANDBY volume.

Example:
```
> CLOSE AMA STDBY 1
> DMNT AMA T1
```

Remove the demounted STANDBY tape from the tape drive, and put up a *new tape* to be used as the next DIRP volume.

Prepare a new STANDBY volume as follows.

```
> MOUNT <x> FORMAT <volume_id>
```
Where <x> is the STANDBY device number, and <volume_id> is the name of the STANDBY volume.

If prompted enter the first filename, or if system response is:
"request aborted. Tape not expired (use ERASTAPE)"
then select an unused or expired tape for formatting.

```
> DEMOUNT T<x>
```

Leave the STANDBY volume at load point and ON LINE. Then, immediately
after SWACT it will become the ACTIVE volume of the appropriate
subsystem.

Procedure 4 - Automatic File Transfer (AFT)

If office is using AFT determine from operating company personnel what
AFT sessions are active.

```
> AFT
> QUERYAFT <aft_session>
```
Where <aft_session> is the NETCON id in table RASLAPPL.

STOP any active AFT session. All active AFT sessions must be stopped
prior to rotating DIRP subsystems.

```
> STOPAFT <aft_session>              {verify "STOPPED" in status bar}
```

ROTATE any active DIRP subsystem (such as OM OCC CDR).

Example:
```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY <dirp_subsystem>
```
Where <dirp_subsystem> can be OM, OCC, CDR, and others.

```
> ROTATE <dirp_subsystem>
> YES
> QUERY <dirp_subsystem>                          {to verify rotated}
```

Verify the rotated files completed transfer and each AFT session is IDLE.

```
> AFT
> QUERYAFT <aft_session>             {verify "IDLE" in status bar}
> QUIT
```

Note: Perform additional DIRP and billing steps if required.

Procedure 5 - DIRP DISK preparation

This step does not apply to DIRP devices already addressed above (that is, primary billing on DPP/BMC, DISK, or TAPE).

ROTATE any other DIRP DISK volumes before SWACT.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY <dirp_subsystem>
```
Where <dirp_subsystem> can be DLOG, SMDR, OM, JF, and others.

```
> ROTATE <dirp_subsystem>
```

Procedure 6 - Parallel DIRP preparation

App Applicator should make a note of how the PARALLEL devices are allocated in table DIRPPOOL.

Site The operating company is responsible to recover parallel AMA as required after SWACT. Parallel DDU should come up automatically, parallel tape will have to be remounted, preferably with new tape.

Note: DIRP does not support parallel AMA recording on a DPP or BMC volume. Table control prohibits the filling of devtype DPP in a parallel pool.

CAUTION
Recently recorded parallel data may be overwritten.

Site should copy the parallel files to tape to prevent loss of parallel data if this is the operating company policy.

• If a single parallel volume is in use, information on the volume will be lost over SWACT.

• If more than one parallel volume is allocated, DIRP will start recording after SWACT on the volume with the oldest timestamp. Hence, information on that volume will be lost over SWACT.

11.2 Recover DIRP and billing procedure

Where applicable and when prompted to do so by the SWUPGRADE process step "RECOVER_DIRP_AND_BILLING" after SWACT, perform this procedure.

Site and App/ACT POSTSWACT recovers PRIMARY (regular) billing subsystems such as AMA, SMDR, OCC, CDR and AFT. Confirm that affected DIRP subsystems were successfully activated. If billing is on tape (MTD) manually assign the STANDBY volumes. Then site may manually bring up PARALLEL subsystem(s) as required.

1
```
> MAPCI;MTC;IOD;DIRP
> QUERY AMA ALL                          {note which volume is ACTIVE}
```

2 If DPP or BMC, call downstream processing to POLL billing data. (Polling is optional. It may also be done after test calls are completed.)

3 Remount TAPEX volumes using the DIRP MNT command.

4 As needed, assign STANDBY billing devices for TAPE and DPP/BMC.

   Note: For details refer to the "PRESWACT DIRP and billing" section.

5 If using SMDR, rotate the SMDR volume from the DIRP level of the MAP (this will ensure the RECORD HEADER is correct). If SMDR recording is on BMC and no standby volume is available, then mount a temporary STDBY TAPE volume. Rotate the BMC port OUT and back IN. Remove the tape volume after this is done.

   Note: Since some SMDR recording applications on BMC collect SMDR records based on the customer group ID only, this ensures that any changes to the customer group IDs are passed to the BMC upon rotate (and the RECORD HEADER is correct).

6 If using AFT, ensure process has started and all active AFT sessions are in SENDING state. If needed, start AFT sessions manually.

```
> AFT
> STARTAFT <aft_session>
> QUERYAFT <aft_session>                  {verify "SENDING" in status bar}
> QUIT
```

7 As needed, bring up PARALLEL devices.

8 Verify all regular and parallel devices are working for all available billing subsystems in DIRP.

11.3 Execute manual TABAUDIT procedure

Procedure 1 - Steps to execute manual TABAUDIT

The following procedure is one method of verifying all office tables before the ONP. Completing these steps will manually activate a TABAUDIT session from the device on which the commands are entered. A manual TABAUDIT session will occupy the terminal device until completed. The total time to complete a TABAUDIT session will vary depending on the number and size of all office tables.

1   **Site/ACT** Set-up and execute a manual TABAUDIT.

    a.   `> TABAUDIT`
        `TABAUDIT:`
        Enters the TABAUDIT increment.

    b.   `TABAUDIT:`
        `> INCLUDE ALL`
        This option will include all tables in the office.

    c.   Start the TABAUDIT session.

        `> EXECUTE`
        This first shows a STATUS. If correct, confirm with "YES" when prompted.

TABAUDIT now executes the various data integrity checks on each tuple of every table in the office.

** TERMINATION—To stop an active TABAUDIT session (not automated) type *<break> hx.*
This <u>quits</u> the TABAUDIT increment which will terminate the session and clear all settings made for this *session.*

—continued—

Procedure 1
Steps to execute manual TABAUDIT (continued)

CAUTION
Do not attempt to view the Summary File until the
TABAUDIT has completed.
Doing so will terminate the TABAUDIT session.

The following example illustrates the correct use of the EXECUTE
command of TABAUDIT.

Example of TABAUDIT execute

```
TABAUDIT:
> EXECUTE


-------------------------------------------------------
|                                                     |
|                    TABAUDIT STATUS                  |
|                                                     |
-------------------------------------------------------


The following tables are included:

   From table ACTPATCH (0)                   to table SSRFORM
(479).


The following tables are excluded:

   No tables have been excluded.


Please confirm ("YES", "Y", "NO", or "N"):

> yes
Creating TABAUDIT summaryfile: SUMMARY$MAP on SFDEV.
Starting DMS data verification ...
   .
   .
Data verification is completed.
```

—continued—

Procedure 1
Steps to execute manual TABAUDIT (continued)

2   After the TABAUDIT has finished running, obtain an error REPORT to see
the results of the testing.

Note: Several useful options are available with the REPORT command.
Type HELP REPORT to see the options.

```
TABAUDIT:
> REPORT ERRORS
```
*The REPORT ERRORS command displays tuples that are in question. To
see detailed information on why a tuple has failed, position on the table tuple
in question and issue a CHECK command. This will display the verify proc
messages that fail.*

3   Review and correct all tables with recorded errors. Then execute TABAUDIT
again on any table that was changed or corrected.

```
TABAUDIT:
> INCLUDE <table_name>
```

```
TABAUDIT:
> EXECUTE
```

```
TABAUDIT:
> REPORT <table_name>
```

*Nortel Networks requires that data integrity checks using TABAUDIT
be made a regular and ongoing part of normal maintenance
procedures. More details on how TABAUDIT operates is included in*
Appendix A *(see section "Using TABAUDIT").*

11.4PM conversion procedure

Procedure 1 - Converting one PM to another

During a software application it is possible to change the key field LTCNAME from an LGC to an LTC. This would be done during the data transfer to eliminate having to delete and re-add the peripheral. The operating company is responsible for changing the FRAMENAME, LOADNAME, and EXEC LINEUP information to meet their needs. This procedure should be used to accomplish this.

Do the following after the CC SWACT when you have converted one PM type to another PM type (for example, an LGC to LTC conversion).

1	**Site/ACT** Busy the inactive unit of the peripheral to be reloaded.
2	Make appropriate changes in table LTCINV for the FRAMENAME, LOADNAME, and EXECS for the peripheral being modified.
3	Load, patch, and rts unit x nodatasync on the inactive unit.
4	Perform a cold SWACT to the newly loaded side.
5	Busy the newly inactive unit.
6	Set the patch set against that unit, load and perform a regular rts.
7	Repeat steps 1–6 for any remaining peripherals to be modified.

11.5MATE IMAGE capture procedure

Procedure 1 - MATE IMAGE capture

For SuperNode CM/SLM only the following procedure for dumping an Inactive (mate) image may be useful in an abort situation or whenever an image of the Inactive CM is required.

When dumping a mate image of a TABXFR'ed load it is important to realize that the image you are taking will have all peripherals in an OFFL state; therefore, this image is not BOOTABLE as it will not have the minimum configuration of at least one IOC/IOM and one TERMDEV in an "IN-SERVICE" state. To avoid this problem RTS the minimum configuration manually (steps 5 and 6).

1   **App/ACT** Prepare the SLM volume to be used to dump the Inactive (mate) image.

> DISKUT

> LF S00DIMAGE   *{example}*
Lists the volume on which you want to put the image.

---

2   **ACT** From the Active side MATEBIND the SLM volume you have chosen.

> MATELINK RTS

> MATEIO

> MATEBIND S00DIMAGE S00DIMAGE   *{example}*

---

3   **ACT** From the Active side MATELOG to the mate side.

> MATEIO

> MATELOG <**device_name**>
Where <device_name> is the INACT terminal.

---

4   **INACT** On the Inactive side LOGIN as OPERATOR ORERATOR.

---

5   **INACT** Mate> MAPCI;MTC;IOD;IOC 0;BSY IOC   *{or IOM}*
Mate MAPCI will not display.

---

6   **INACT** On the mate side BSY and RTS the same location that the MAP is datafilled on the Active side (example: CARD 2 PORT 0;BSY 0;RTS 0).
The RTS will fail, but this is expected.

—continued—

Procedure 1
MATE IMAGE capture (continued)

7   INACT

```
Mate> QUIT MAPCI

Mate> PRINT MATEIODIR
```
You should see the file S00DIMAGE in MATEIODIR.

---

8   INACT From the Inactive side DUMP the Inactive (mate) image.

```
Mate> MATEIO

Mate> DUMP IMAGE S00DIMAGE ACTIVE RETAIN NODE CM    {example}
```
This command will give a couple of messages about not being able to translate the IOC/IOM devices—ignore the messages.

Wait for image dump to complete.

---

9   ACT From the Active side loadmate the mate image just dumped to verify it.

Note: LDMATE time will be approximately 10 to 15 minutes.

```
> LDMATE DIRECT DISK S00DIMAGE                              {example}
```
Upon completion, system response should be:

```
    DIRECT LDMATE complete.
    Confirm successful initialization on Inactive CPU
    before proceeding.
```

Similarly, the RTIF response is:

```
    \BOOTING...
    Loading completed...
```

Wait for loading to complete. Initialization is confirmed when the Inactive processor flashes A1.

11.6 Enabling PRSM procedure

Procedure 1 - Enabling PRSM

Following is information on enabling (or disabling) the PRSM patching manager. This is only a brief introduction to PRSM.

PRSM retains all functionality of Patcher, plus:

- works on single or a set of patches,

- applies patches in correct order,

- determines the destination for patches.

In NA004B (Base05) Patcher is default, and PRSM is available for activation (POST-application).

In NA005 (Base06) PRSM is default, but Patcher is still available.

Beyond NA005 only PRSM can be used.

Note: Currently a password is required to enable PRSM. This requirement should be removed as PRSM is further deployed.

To enable PRSM from a map

```
Commands to enter:   Action taking place:
------------------   --------------------


prsmdbg              % Enters the PRSMDBG CI.


qprsm                % Verify Patcher is the active patching
                       manager.


enableprsm           % Enables PRSM if Patcher is the active
                       patching manager.


*** PRSM may require the user to enter a password ***


*** Obtain the password from your NORTEL support person ***


<password>           % Enter the password to enable PRSM.


qprsm                % Verify PRSM has been enabled.
```

—continued—

Procedure 1
Enabling PRSM (continued)

**** Example of enable

```
> prsmdbg

PRSMDBG:

> qprsm

Currently, Patcher is the active patch manager.

> enableprsm

A password must be entered to enable PRSM.

Please enter the password:

Performing all PRSM steps to SYNC PRSM to Patcher.
```
Follows with various messaging and audits....
```
PRSM is now enabled.

> qprsm

Currently, PRSM is the active patch manager.

record stop onto sfdev
```

To disable PRSM from a map

```
Commands to enter:   Action taking place:
-----------------    -------------------

prsmdbg              % Enters the PRSMDBG CI.

qprsm                % Verify PRSM is the active patching
                       manager.

disableprsm          % Disables PRSM if PRSM is the active
                       patching manager.

yes                  % Enter "yes" to the prompt asking if you
                       really wish to switch back to Patcher.

qprsm                % Verify PRSM has been disabled.
```

—continued—

Procedure 1
Enabling PRSM (continued)

**** Example of disable

```
> prsmdbg

PRSMDBG:

> qprsm

Currently, PRSM is the active patch manager.

> disableprsm

Are you sure you want to switch back to Patcher?

Please confirm ("YES", "Y", "NO", or "N"):

> y

Performing all Patcher steps to SYNC Patcher to PRSM.
```
Follows with various messaging and audits....
```
Patcher is now enabled.

> qprsm

Currently, Patcher is the active patch manager.

record stop onto sfdev
```

11.7 Old DIRP and billing procedure

Procedure 1 - DIRP and billing preparation (old)
(formerly PRESWACT DIRP and billing)

Site and Applicator can work together to prepare the PRIMARY DIRP billing subsystems for the CC switch of activity (SWACT). This procedure gives the steps to accomplish this preparation.

PRESWACT step CHECK_DIRPPOOL is an Active side procedure which displays both Active and Inactive datafill in table DIRPPOOL to allow the craftsperson to adjust datafill before the activity switch. The craftsperson is also advised that any TAPE volumes will need to be recovered after the switch of activity.

1   **Disk drive PRIMARY billing**

With this step primary disk volumes can recover automatically after SWACT.

   a.   **Site/ACT** If on disk (DDU), from the DIRP level ROTATE any Active billing subsystem (such as AMA SMDR OCC CDR).

   b.   If required by the operating company policy, copy unprocessed DIRP files to back-up tape (using DIRPAUTO or DIRPCOPY commands).

   c.   Verify that table DIRPHOLD contains no unprocessed billing files (if DIRPAUTO was used above).

   d.   **Site and App/INACT** Ensure that regular disk volumes are in table DIRPPOOL on the Inactive side. This allows the disk to be recovered by DIRP after SWACT. If necessary manually datafill the volume names in DIRPPOOL on the Inactive side before SWACT. *PRESWACT step CHECK_DIRPPOOL displays the datafill for table DIRPPOOL on the Inactive side.*

2   **Tape drive PRIMARY billing**

With this step primary tape volumes can recover automatically after SWACT.

   a.   **Site/ACT** If on tape (MTD), from the DIRP level ROTATE any Active billing subsystem (such as AMA SMDR OCC CDR), CLOSE the standby file, and DMNT the standby volume.
Example:
```
ROTATE AMA
CLOSE AMA STDBY 1
DMNT AMA T1    {standby volume}
```

   b.   Remove the demounted standby tape from the tape drive, and put up a new tape to be used as the next DIRP volume.

—continued—

Procedure 1
DIRP and billing preparation (continued)

    c.   Prepare a new standby volume as follows.

> `> MOUNT <x> FORMAT <`**`volume_id`**`>`
> *Where <x> is the standby device number, and <volume_id> is the*
> *name of the standby volume.*

If prompted enter the first filename, or if system response is:
"request aborted. Tape not expired (use ERASTAPE)"
then select an unused or expired tape for formatting.

> `> DEMOUNT T<`**`x`**`>`

Leave the standby volume at load point and ON LINE. Immediately
following SWACT, it will become the ACTIVE volume of the
appropriate subsystem.

    d.   **Site and App/INACT** Ensure that regular tape volumes are in table
DIRPPOOL on the Inactive side. This allows the tape to be recovered
by DIRP after SWACT. If necessary manually datafill the volume
names in DIRPPOOL on the Inactive side before SWACT.
PRESWACT step CHECK_DIRPPOOL displays both Active and
Inactive datafill in table DIRPPOOL.

3   **DPP/BMC PRIMARY billing**

With this step primary DPP/BMC volumes can recover automatically after
SWACT.

    a.   **Site/ACT** Perform this step to close the last file on the DPP and open
a new one. The operating company may POLL the DPP if desired
when this is complete.

> `> MAPCI;MTC;IOD;DPP AMA;IDXMAINT CREATE FILE AMA`
> *This re-establishes the block header on the DPP.*

    b.   **Site and App/ACT** If SMDR recording is on BMC (datafilled as TAPE
in table DIRPPOOL) and NO standby volume is available for BMC,
then mount a temporary STDBY TAPE volume. In table DIRPPOOL
add the TAPE device as a standby BMC. Also add the device on the
Inactive side (see the following substep). Leave the STDBY TAPE
demounted. DO NOT ROTATE the BMC. This volume will be used to
rotate the BMC port OUT and back IN during POSTSWACT.

Note: Some SMDR recording applications on BMC collect SMDR
records based on customer group ID only, and it is necessary to rotate
the BMC tape port IN during POSTSWACT to ensure that any
changes to the customer group IDs are passed to the BMC upon rotate
(to ensure the RECORD HEADER is correct).

—continued—

Procedure 1
DIRP and billing preparation (continued)

    c.   **Site and App/INACT** Ensure that regular DPP/BMC volumes are in table DIRPPOOL on the Inactive side. If necessary manually datafill the volume names in DIRPPOOL on the Inactive side before SWACT. *PRESWACT step CHECK_DIRPPOOL displays both Active and Inactive datafill in table DIRPPOOL.*

              `Mate> TABLE DIRPPOOL;POS <`**`pool_#`**`>`
              Where <pool_#> is the number for DPP AMA pool.

              Verify field DEVTYPE in table DIRPPOOL is DPP (not TAPE).

CAUTION
In a pool of DPP or BMC volumes, field DEVTYPE
in table DIRPPOOL should be DPP (not TAPE).

Otherwise, if datafilled as TAPE you will have to recover the volume manually after SWACT.

---

4   **Parallel DIRP**

    App Applicator should make a note of how the parallel devices are allocated in table DIRPPOOL.

    Site The operating company is responsible for recovering parallel AMA after SWACT. Parallel DDU should come up automatically, parallel tape will have to be remounted, preferably with a new tape.

    Note: DIRP no longer supports (BCS34) parallel AMA recording on a DPP or BMC volume. Table control prohibits the filling of devtype DPP in a parallel pool.

CAUTION
Recently recorded parallel data may be overwritten.

Site should copy the parallel files to tape to prevent loss of parallel data if that is the operating company policy.
• If a single parallel volume is in use, information on the volume will be lost over SWACT.
• If more than one parallel volume is allocated, DIRP will start recording after SWACT on the volume with the oldest time stamp. Hence information on that volume will be lost over SWACT.

11.8 Testing call survivability over a CC WarmSWACT

This section provides a procedure for testing call survivability over a CC WarmSWACT and sample call scripts. These are provided as guidelines for the testing of calls being supported over the CC WarmSWACT.

Procedure 1 - Procedure for testing call survivability

1   Ensure that the best possible mix of the above call scripts are used for the following procedure.

---

2   Establishing call—Just before the CC WarmSWACT perform the following:

On the originating set:

- Take handset off hook and dial the desired number
- Wait for terminating set to pick up
- Ensure that a voice path has been established by blowing into phone on originating set and listening for the blowing on the terminating set

On the terminating set:

- Wait for ringing
- Take handset off hook
- Ensure that a voice path has been established by blowing into phone on terminating set and listening for the blowing on the originating set

Leave both handsets offhook

Note: Only stable (in a talking state—not in transition like dialing or feature activation mode) two port calls are maintained over CC WarmSWACT. Any call which involves a feature/extension data block or service circuit will not be maintained (e.g., call waiting, call forwarding, conference call).

---

3   Testing call—Right after the new CPU takes activity (i.e., during the restart or recovery sequence on the newly Active CPU) perform the following:

On the originating set:

- Ensure that a voice path has been maintained by blowing into phone on originating set and listening for the blowing on the terminating set

On the terminating set:

- Ensure that a voice path has been maintained by blowing into phone on terminating set and listening for the blowing on the originating set

Leave both handsets offhook.

—continued—

Procedure 1
Testing call survivability over a CC WarmSWACT (continued)

As soon as your are able to log into the switch (i.e., once A1 is flashing) perform the following sequence:

On the originating set:

- Ensure that a voice path has been maintained by blowing into phone on originating set and listening for the blowing on the terminating set

On the terminating set:

- Ensure that a voice path has been maintained by blowing into phone on terminating set and listening for the blowing on the originating set

Leave both handsets offhook

Once the SWCT101 log is issued (i.e., SWACT is done and dial tone has been re-established) perform the following sequence:

On the originating set:

- Ensure that a voice path has been maintained by blowing into phone on originating set and listening for the blowing on the terminating set

On the terminating set:

- Ensure that a voice path has been maintained by blowing into phone on terminating set and listening for the blowing on the originating set

Place both handsets on hook (i.e., terminate call).

Note: Any activation of a feature on a call maintained over CC WarmSWACT will cause the call to be dropped (e.g., a call maintained over CC WarmSWACT cannot activate a conference call, cannot activate call forwarding, cannot come out of hands-free mode, cannot be put on hold etc. without causing the call to be torn down).

—continued—

Procedure 1
Testing call survivability over a CC WarmSWACT (continued)

4   Ensuring call processing—Re-establish call as described in Step 1.

If at any time during this procedure any of the following conditions exist: one-way speech path, no dial tone, no speech path, constant ringing, no ringing, crosstalk, busy signal—perform the following actions:

a.   Check hardware involved for faults (e.g., check set, line card, ring generator, etc.).

b.   Post line or trunk at MAP position and confirm proper state or transition of state is set (e.g., if supposed to be in talking mode ensure both the originating and terminating set show CPB, when you put handset onhook the state should change from CPB to IDL).

c.   Obtain a QDN for both the originating and terminating set.

d.   Obtain a TRAVER for the call between the originating and terminating set.

e.   Collect SWCT, ENET, NET, NETM, ENCP, PM, TRK and LINE logs from both sides of the switch (i.e., both Active and Inactive CPU).

Sample call scripts for testing call survivability

1.   Verify ISDN calls:

line (KSET-Disp M5317T) -> trunk -> line (KSET-Disp M5209T)

   (e.g., 968-xxxx ---> 6-456-xxxx)

line (PPHONE-Disp M5317T) -> trunk -> line (1FR-Disp Maestral)

   (e.g., 968-xxxx ---> 9-969-xxxx)

line (KSET-Disp M5317T) -> trunk -> line (PPHONE-Meridan Bus.)

   (e.g., 968-xxxx ---> 9-1-819-456-xxxx)

line (KSET-Disp M5317T) -> line (KSET-PSET)

   (e.g., 968-xxxx ---> 968-xxxx)

line (BRAMFT set) -> line (BRAFS set)

   (e.g., 968-xxxx ---> 968-xxxx)

line (1FR) -> line (BRAKS set)

   (e.g., 968-xxxx ---> 968-xxxx)

—continued—

Sample call scripts for testing call survivability (continued)

2.   Verify regular POTS calls:

line (PPHONE) -> trunk -> line (1FR)

(e.g., 969-xxxx ---> 9-1-514-970-xxxx)

line (1FR) -> line (1FR)

(e.g., 969-xxxx ---> 969-xxxx)

---

3.   Verify CMS calls:

line (1FR) -> line (1FR)

(e.g., 969-xxxx ---> 969-xxxx)

---

4.   Verify use of different trunk types:

line (1FR) -> PTS trunk -> line (1FR)

(e.g., 968-xxxx ---> 9-969-xxxx)

line (1FR) -> ISUP trunk (all variants supported by office)

-> line (KSET-Disp M5209T)

(e.g., 968-xxxx ---> 6-456-xxxx)

---

5.   Verify use of different PM types:

line (LM) -> line (RLM)

(e.g., 969-xxxx ---> 969-xxxx)

line (LCM) -> line (RLCM)

(e.g., 969-xxxx ---> 969-xxxx)

11.9 Procedure for Loading the BMMI Data Dictionary

Procedure 1 - Loading the BMMI DD from SLM tape

1 Upon receiving the SLM tape containing the BMMI Data Dictionary, the craftsperson should INSERT and LIST the tape.

The SLM tape will have four files associated with it:

```
csp04-1.F.fvocab
csp04-1.F.evocab
csp04-1.F.pbook
bmmiloadfile
```

in CSP10 and higher, the files are labeled as follows:

```
CSP10_EVOCAB_4_F
CSP10_FVOCAB_4_F
CSP10_PBOOK_4_F
BMMILOADFILE and BMMIUNLOAD
```

2 Once the SLM tape has been listed, the craftsperson just has to enter the following command:

```
> EXECUTE BMMILOADFILE
```

After a short time period, the text on the MAPCI terminal will appear in French.

Supplemental BMMI DD procedures

The actual BMMI Data Dictionary (DD) for the CDN004 release is comprised of three files with the following naming convention:

csp<XX>-<N>.f.<filetype>

where:

"csp" is communications software platform

<XX> is the csp number

<N> is a BMMI DD sequence number

"f" is signifies that this is a French BMMI DD

<filetype> will be one of fvocab, evocab, or pbook.

So when listing the contents of the SLM tape, you will likely see something like this:

csp04-1.F.fvocab
csp04-1.F.evocab
csp04-1.F.pbook

There is a fourth file called "bmmiloadfile" that contains the actual commands to load the BMMI DD. This file is provided in order to simplify the operation of loading of the BMMI DD for the craftsperson. The typical contents of file "bmmiloadfile" are:

```
bmmi
baseload csp04-1.F.fvocab french
baseload csp04-1.F.evocab french
baseload csp04-1.F.pbook french
ispeak french
```

Note: Each bmmiloadfile may look slightly different depending on the sequence number and the "csp" number of the generated DD files.

Manual loading

- To *manually load* the BMMI DD files without using the bmmiloadfile, you must first enter the "bmmi" utility -

```
> BMMI
BMMI:
```

Now you are ready to load the actual files using the "baseload" command -

```
> BASELOAD <filename> FRENCH
```

so, for example, we would enter -

```
> baseload csp04-1.F.fvocab french
```

```
> baseload csp04-1.F.evocab french
```

```
> baseload csp04-1.F.pbook french
```

While still in the "bmmi" utility, activate the French BMMI functionality by using the "ispeak" command -

```
BMMI:
```

```
> ISPEAK FRENCH
```

Or, to go back to English enter -

```
> ISPEAK ENGLISH
```

Note: This will only affect the terminal that you are using.

Unloading

- Some time it may be necessary to *unload* the DD files. This is accomplished with the "baseunload" command.

  You must first enter the "bmmi" utility -

  ```
  > BMMI
  BMMI:
  ```

  Now you can unload the files using the command -

  ```
  > BASEUNLOAD <DD_filetype>
  ```

  where the only acceptable filetypes are:

  "TVOCAB"   (refers to the CSPp04-1.F.fvocab file)

  "EVOCAB"   (refers to the CSP04-1.F.evocab file)

  "PHRASEBOOK" (refers to the CSP04-1.F.pbook file)

  For example -

  > baseunload TVOCAB

  > baseunload EVOCAB

  > baseunload PHRASEBOOK

  Note: The "T" in "TVOCAB" is not a spelling error, rather it stands for Translated VOCAB.

12 Appendix C: Test Call Plan

About this appendix

This section presents generic guidelines for creating a test call plan to be used both *before and after* the switch of activity (SWACT) to a new load.

The purpose of test calls is to verify the performance of newly installed software for telephone switching systems. Test calls can ensure the smooth operation of thousands of calling situations with different combinations of telephone sets, service features, and traffic conditions on the network. Such testing helps ensure the availability and reliability of features and services for telephone users.

The term "Test Call Scripts" refers to the verification calls as predefined by the Telephone/Carrier Operating Company. These are test calls to be performed after activating the new software load in order to confirm acceptability of the new load. In the ONP procedure the Test Call Scripts are put to use as follows:

1. As a part of <u>site preparation</u>, the procedure *Fill in Test Call Scripts* instructs the operating company to "Fill in and test the Test Call Scripts." This is to provide a thorough test plan exercise for validating the new software load.

2. Then, <u>after activating the new software load</u>, the procedure *Do Test Calls* instructs the operating company to "Perform TEST CALLS that were identified ahead-of-time."

The call scripts provided below are only examples of call types that could be included in the Test Call Scripts. These samples include only basic call processing tests and provide some, but not all, critical test calls. These are provided only as a guideline. Each telephone/carrier office should determine the best mix of test calls to use based on the office's unique configuration.

CAUTION
The test calls listed in the following procedures will not apply to every office
The telephone office will have to customize the list according to its own particular configuration.

> **CHECKLIST**
> **Nortel Networks recommends including the following items in your POSTSWACT testing routine.**
> Add any other items that are determined to be important.

POSTSWACT call checklist

___ Verify date, time and DIALTONE

___ Perform Critical Call Tests (for example, 0- and 0+7/10)
   See the following procedure.

___ Perform IDDD (International Direct Distance Dialing) calls

___ Check Equal Access origination and termination

___ Perform CCIS (Common Channel Inter-office Signaling) calls

___ Verify ACTS (Automatic Coin Toll Service)

___ Verify DRAMS (announcements and SIT tones)

___ Check WATS (Wide Area Telephone Service), INWATS, OUTWATS, 2-way

___ Verify Pay Station Coin Control (Coin Collect and Coin Return)

___ Verify miscellaneous services such as 311, 411, 611, and repair services

___ Check EAS (Extended Area Service) calls

___ Perform TOPS (Traffic Operator Position System) calls

___ Perform MCCS (Mechanized Calling Card Service) calls

___ Perform DISA (Direct Inward System Access) calls

___ Verify Custom Calling Features

Procedure 1 - Critical test calls

	Test description	From: Line type or CLLI	To: Call type Digits dialed	Test Result
1	Check for DIALTONE on all line modules			
2	Verify '0' minus route			
3	Verify '0' plus route			
4	Verify ONI 1-7, 1-10 digits			
5	Verify EAS incoming/outgoing routes			
6	Verify CAMA routes			
7	Verify local Tandem routes			
8	Verify DDO route			
9	Verify Directory Assistance			
10	Verify critical service routes (911, police, file, hospitals, and radio stations)			
11	Verify TOLL COMP (DTS) route			
12	Verify 1FR intra-office call			
13	Verify Remotes: - EAS outgoing (one route) - '0' plus '0' minus - CAMA ANI - 1FR intra- Remote			
14	Verify Operator Intercept route			
15	Verify all tones, group alarms, and announcements functional			
16	Verify all (idle) customer/network Trunks			

Procedure 2 - Additional test calls sample

1   Verify regular POTS calls:

line (1FR) –> line (1FR)

   (969-xxxx –> 969-xxxx)

line (PPHONE) –> trunk –> line (1FR)

   (969-xxxx –> 9-1-514-970-xxxx)

---

2   Verify use of different PM types:

line (LM) –> line (RLM)

   (969-xxxx –> 969-xxxx)

line (LCM) –> line (RLCM)

   (969-xxxx –> 969-xxxx)

---

3   Verify use of different trunk types:

line (1FR) –> PTS trunk –> line (1FR)

   (968-xxxx –> 9-969-xxxx)

line (1FR) –> ISUP trunk (all variants supported by office)–>
  line (KSET-Disp M5209T)

   (968-xxxx –> 6-456-xxxx)

---

4   Verify ISDN calls:

line (KSET-Disp M5317T) –> trunk –> line (KSET-Disp M5209T)

   (968-xxxx –> 6-456-xxxx)

line (PPHONE-Disp M5317T) –> trunk –> line (1FR-Disp Maestro)

   (968-xxxx _> 9-969-xxxx)

line (KSET-Disp M5317T) –> trunk –> line (PPHONE-Meridan Bus.)

   (968-xxxx –> 9-1-819-456-xxxx)

line (KSET-Disp M5317T) –> line (KSET-PSET)

   (968-xxxx –> 968-xxxx)

line (BRAMFT set) –> line (BRAFS set)

   (968-xxxx –> 968-xxxx)

line (1FR) –> line (BRAKS set)

   (968-xxxx –> 968-xxxx)

---

13 Appendix D: XA-Core Release Upgrade procedures

13.1 About this appendix

The XA-Core Release Upgrade procedures are applicable when upgrading the release level of a DMS SuperNode XA-Core provisioned switch (for example, when upgrading from XA-Core Release 1 to XA-Core Release 2).

ATTENTION: Before the Applicator can start this procedure, the on-site Installer must have completed the upgrade procedure using Installation Methods IM 65-6174 "XA-Core Release 1 Conversion to 3-PE Configuration" and the XA-Core must be in the 2+1 Processor Element configuration.

The procedures included in this appendix are for in-service DMS-100 Family switches. These procedures support software upgrades on DMS SuperNode XA-Core provisioned switches only and should be used in conjunction with the following Installation Manual procedures:

- *IM 78-6175 XA-Core Upgrade to Release 2 Configuration*

13.2 Included sections

The procedures included in this appendix are organized as follows:

- Preliminary phase procedure
- TABXFR procedure
- PRESWACT procedure
- SWACT and POSTSWACT procedure
- Revert to old load procedure

13.3 Preliminary phase procedure

Begin the following procedures at the established ONP start time. To verify the start time refer to the site-ready report or contact next level of support.

Two dialup ports are required for the ONP. One dialup is used to access the Active side processor and the other to access the Inactive side processor. Failure to provide two dialup ports at this time will jeopardize the software upgrade.

The Applicator (software delivery engineer) will acquire a *soft copy* of the console sessions for both terminals. **The operating company may elect to also monitor the application process by recording onto a printer using "RECORD START FROM <terminal_id> ONTO <printer>."** Avoid using unnecessary or slow devices to monitor the ONP (either RECORD START or TRACECI) as this can slow the application process and extend out-of-sync time.

CAUTION
Ensure no peripheral hardware changes or retrofits are in progress. This includes network and peripheral additions and deletions.
Any hardware presently being worked must be made INB (installation busy), and all further software changes must cease at this point.

ATTENTION: Before the Applicator can start this procedure, the on-site Installer must first complete Section 4.2, Procedure 1 of Installation Method IM 78-6175 "XA-Core Upgrade to Release 2 Configuration." There should be PE cards in slots 4F, 13F, and 16F, and the PE in slot 4F should be Manually Busy.

13.3.1 Procedure 1 - Interrupt/ABORT process

Both SITE and Applicator should become familiar with each of the following steps before continuing with the procedures in this section.

1   If the TABXFR process must be temporarily halted or interrupted, use the HALT option. Refer to "Interrupt TABXFR procedure" in Appendix A.

2   It may be necessary to STOP (and reschedule) the application after PRESWACT has been started, but *before* the switch of activity (SWACT). Refer to "PRESWACT Abort procedure" in Appendix A.

3   If a controlled REVERT is required *after* the switch of activity (SWACT) refer to the "Revert to old load procedure" in this Appendix.

13.3.2 Procedure 2 – Remote login

1   **App/ACT** Contact the control center (if required) and the site on the voice phone and connect to both dialup ports. Verify one dialup port is on IOC 0 (or IOM 0) and the other is on IOC 1 (or IOM 1).

2   **App/ACT** Login both users and, if applicable, set LOGINCONTROL.

    a.   `<break>`

          `?LOGIN`
          `Enter username and password`   *{system response}*

          `> <`**username**`> <`**password**`>`

    or   `> <`**username**`>`
          `> <`**password**`>`

    b.   Obtain IOC/IOM device and user information as follows.

          `> BCSUPDATE;DEVICE`
          `> QUIT`

          `> QUSER`

    c.   **Site and App** The operating company is responsible for providing <u>*users*</u> and <u>*devices*</u> with properties sufficient to perform the ONP. The following are recommended settings for each user/device.

        • *User Priority* is *4*

        • *User Stack Size* is at least *10000*

        • *User Privilege Class is ALL*

        • *ComClass is ALL*

        • *OpenForceout* is *N*

         If not, note original status and enter:

          `> LOGINCONTROL <`**device**`> OPENFORCEOUT FALSE`

        • *MaxIdleTime* is *Forever*

         If not, note original status and enter:

          `> LOGINCONTROL <`**device**`> MAXIDLETIME FOREVER`

    Repeat this step for the second terminal device.

13.3.3 Procedure 3 - Check logs

1   **App/ACT** Check system logs to verify processor stability. Use LOGCHECK
or open logs manually (TRAP, INIT, SWER, XAC, MS, and IOP).

> `BCSUPDATE;LOGCHECK`   *{or list manually}*

> `QUIT`
Do not continue until all logs have been explained.

13.3.4 Procedure 4 - Stop journal file

1 **Site or App/ACT** ROTATE and STOP the Journal File recording.

a. `> MAPCI;MTC;IOD;DIRP;QUERY JF ALL`
Check which JF volume is currently Active.

b. `> CLOSE JF ACTIVE`
`> YES`
QUERY again to verify rotation.

c. `> JF STOP`
Verify stopped.

d. `> QUIT MAPCI`

CAUTION
Servord activity and table changes are not permitted during the ONP.
Inform all operating company personnel that data changes on the DMS such as Servord and table changes must be halted until after the ONP is completed. Data changes made during the software upgrade can cause ONP process problems and may result in lost data on the restored side.

13.3.5 Procedure 5 - Verify MS load

1   **App/ACT** Verify both Message Switch (MS) units are loaded correctly with the same load level and release according to the appropriate Peripheral Module Software Release Document.

CI:

```
> REMLOGIN MS 0
> IMAGENAME
```
Observe the load name listed and verify correct.

```
> REMLOGOUT
```

```
> REMLOGIN MS 1
> IMAGENAME
```
Observe the load name listed and verify correct.

```
> REMLOGOUT
```

Ensure both MS units are correct with the same load level and release.

CAUTION

If the Message Switch is not loaded correctly escalate immediately.
Incorrect MS loads will cause subsequent ONP processes to fail and may jeopardize the software upgrade.

13.3.6 Procedure 6 - BULLETINS before SPLIT and Loadmate

1   **App** Verify and perform all software delivery bulletins and workarounds that are required before beginning the SPLIT and Loadmate procedure.

13.3.7 Procedure 7 - SPLIT and Loadmate

To Loadmate from <u>disk</u> do step 1.
Or, to Loadmate from <u>tape</u> do step 2.

1　　**App/ACT** If Loadmating from disk, determine where the non-datafilled CM load file was previously restored.

　　a.　List the files on the disk volume with the non-datafilled CM load file.

```
> DISKUT
> LV                                    {lists all volumes on all disks}
> LF F02L<volume>                       {or F17L<volume>}
```
Where <volume> is the disk volume with the non-datafilled *CM load file.*

Make note of the name of the non-datafilled CM load file for later use.

　　b.　Exit the DISKUT environment.

```
> QUIT ALL
```

　　c.　Run the LDMATE command. This command will SPLIT the shared memory (SM), allocate a processor element (PE), and load the offline shared memory with the specified image file.

```
> LDMATE <filename> [verbose]
```
Where <filename> is the non-datafilled *CM load file and [verbose]*
enables system progress marks to be displayed on the MAP terminal

Example:
```
>LDMATE LEC00015_CM verbose
Loadmate may be deferred if SM is syncing.
Check SM MAP level for current SYNC status.
Please confirm ("YES", "Y", "NO", or "N"):
>Y
Beginning step SW check.
Beginning step SM Split.
Beginning step LoadMATE.
Step LoadMATE is 10 % complete.
Step LoadMATE is 20 % complete.
Step LoadMATE is 30 % complete.
Step LoadMATE is 40 % complete.
Step LoadMATE is 50 % complete.
Step LoadMATE is 60 % complete.
Step LoadMATE is 70 % complete.
```

—continued—

Procedure 7
SPLIT and Loadmate   (continued)

```
Step LoadMATE is 80 % complete.
Step LoadMATE is 90 % complete.
Beginning step PE Split.
LDMATE Successful
Verify that the inactive image has restarted
successfully before continuing.
```

2   **App and Site/ACT** If Loadmating from tape, place the tape cartridge with the non-datafilled CM load file into a tape drive.

   a.   Insert and list the tape

```
> DISKUT
> IT <tape_device>
> LF <tape_device>
```
   Where <tape_device> is the tape drive (F02UTAPE or F17UTAPE)

   b.   Run the LDMATE command. This command will SPLIT the shared memory (SM), allocate a processor element (PE), and load the offline shared memory with the specified image file.

```
> LDMATE <filename> [verbose]
```
   Where <filename> is the non-datafilled *CM load file and [verbose] enables system progress marks to be displayed on the MAP terminal*

   Example:
```
>LDMATE LEC00015_CM verbose
Loadmate may be deferred if SM is syncing.
Check SM MAP level for current SYNC status.
Please confirm ("YES", "Y", "NO", or "N"):
>Y
Beginning step SW check.
Beginning step SM Split.
Beginning step LoadMATE.
Step LoadMATE is 10 % complete.
Step LoadMATE is 20 % complete.
Step LoadMATE is 30 % complete.
Step LoadMATE is 40 % complete.
```

—continued—

Procedure 7
SPLIT and Loadmate   (continued)

```
Step LoadMATE is 50 % complete.
Step LoadMATE is 60 % complete.
Step LoadMATE is 70 % complete.
Step LoadMATE is 80 % complete.
Step LoadMATE is 90 % complete.
Beginning step PE Split.
LDMATE Successful
Verify that the inactive image has restarted
successfully before continuing.
```

c. Exit the DISKUT environment (this will eject the tape).

```
> QUIT ALL
```

13.3.8 Procedure 8 - Verify Shared Memory (SM) is SPLIT

1 **App/ACT** After the LDMATE completes, access the SM level of the MAP to determine if the Shared Memory is SPLIT and the SYNC state is simplex.

> `> MAPCI;MTC;XAC;SM`

System Response: `SYNCSTATE:SIMPLEX`

Note: An 'X' under a SM card indicates the SM card is on the Inactive side.

2   **App/ACT** Access the PE level of the MAP to determine if the PE is SPLIT.

> `> MAPCI;MTC;XAC;PE`

Note: A PE FL will occur and then an 'X' will appear under the PE card indicating that the PE card is on the Inactive side.

3 **App/ACT** Quit the Map level.

> `> QUIT MAPCI`

13.3.9 Procedure 9 - AUTO_UNSPLIT Active

When the LDMATE command and the AUTO_UNSPLIT_OFF command are executed, a SWACT is avoided when and if an Active side restart occurs.

1   **App/ACT** Set the AUTO_UNSPLIT status to OFF on the Active side.

```
CI:

> TASTOOLCI

TASTOOLCI:

> AUTO_UNSPLIT_OFF
```

Example of system response:

```
WARNING: Automatic unsplitting on active side restarts
while in split mode is disabled.

> QUIT
```

*Note***:** If the "TASTOOLCI ACCESS has expired" message is received, contact Nortel Networks support for the TASTOOLCI ACCESS password.

13.3.10 Procedure 10 - Login Inactive after SPLIT and Loadmate

Login on the Inactive (mate) processor after SPLIT and Loadmate is complete.

---

1 **App and Site/ACT** Type:

```
> MATELINK RTS
```

This may initialize the Inactive processor. Ensure a flashing 00A1 on the Inactive side.

---

2 **App/ACT** Type:

```
> MATEIO
```

```
> MATELOG <device_name>
```
Where <device_name> is the name of the Inactive terminal.

---

3 **App/ACT** If using regular dialup ports (***not* X.25**), sleep the Active side prompt on the Inactive terminal by typing:

```
> SLEEP 240 MINS
```

The Active side prompt can be awakened any time using <break>hx or <break>stop.

---

4 **App/INACT** On the Inactive terminal type:

```
Enter username and password              {mate-side response}
Mate> OPERATOR OPERATOR
```

or
```
Enter username
Mate> OPERATOR
```
```
Enter password
Mate> OPERATOR
```

13.3.11   Procedure 11 - Set date and header message

1   **App/INACT** Set the current date and site office header message on the Inactive (mate) side.

```
Mate> SETDATE <dd mm yyyy>                      {set today's date}

Mate> SETLOGMSG '<text>'           {closing single-quote (') is essential}
```
Where <text> becomes the office header on the new software load.

Using the old header as the model, change the **Office Order** (COEO), **Product Code** (or PCL level), and **application date**. Ensure all symbols at the beginning and end of the header message remain the same (including spaces).

Example:

```
> *** H1234 Office_name LEC00015 10/FEB/2001 ***
```

13.3.12   Procedure 12 - AUTO_UNSPLIT Inactive

When the LDMATE command and the AUTO_UNSPLIT_OFF command are executed a SWACT is avoided when and if an Active side restart occurs.

---

1   **App/INACT** Set the AUTO_UNSPLIT to OFF on the Inactive side.

```
CI:

Mate> TASTOOLCI

TASTOOLCI:

Mate> AUTO_UNSPLIT_OFF
```

Example of system response:

```
WARNING: Automatic unsplitting on active side restarts
while in split mode is disabled.

Mate> QUIT
```

Note: If the "TASTOOLCI ACCESS has expired" message is received, contact Nortel Networks support for the TASTOOLCI ACCESS password.

13.3.13   Procedure 13 - Check logs Inactive

1   **App/INACT** Check Inactive (mate) logs to verify processor stability. Use LOGCHECK or open logs manually (TRAP, INIT, SWER, MS, XAC, and IOP).

```
Mate> BCSUPDATE;LOGCHECK                          {or list manually}

Mate> QUIT
```

IMPORTANT: Do not continue until all logs have been explained.

2   **App/INACT** Clear the trap information.

```
Mate> TRAPINFO CLEAR

Please confirm ("YES", "Y", "NO", OR "N")

Mate> Y
```

13.3.14   Procedure 14 - Download application files

Based on Nortel Networks market requirements it may be necessary to download certain ONP application files (for example, FEATDATA) in order to complete the software upgrade. Which files to download and when they are downloaded will depend on the established process for each market.

If required, download any market-specific application files(s) (such as FEATDATA) to the office. For certain markets this may already have been done during the Site Preparation phase.

1   **App/ACT**   Verify the file(s) to be downloaded is correct for this job. Reference the information in the market-specific application file(s) for this purpose.

---

2   **App/ACT**   Before downloading file(s) search the Active side storefile device (SFDEV) and ensure that no "old version" file(s) exists. An old version file is one that may have been left in storefile during a previous software upgrade.

```
> LISTSF ALL
```

If necessary erase any old version file(s) from SFDEV.

```
> ERASESF <old_version_file>
```

---

3   **App/ACT**   Download the file(s) to the Active side SFDEV. After downloading is complete verify the file(s) is present.

```
> LISTSF ALL
```

---

4   **App/ACT**   Matecopy the needed file(s) to the Inactive SFDEV.

Example:

```
> MATECOPY FEATDATA
```
Repeat for all needed files.

On the Inactive side verify the file(s) is present.

```
Mate> LISTSF ALL
```

Note: If the MATECOPY command fails, check the TABXFR status on the ACTIVE side (not INACTIVE). If the platform is set to anything other than XACORE, change it to XACORE and retry the MATECOPY command. If the command still fails, contact the Global Software Services hotline for your market.

Example:

```
> TABXFR;STATUS
> SETUP XACORE
> QUIT ALL
```

13.3.15　　Procedure 15 - Table PADNDEV pointer

The purpose of this procedure is to set table PADNDEV for Inactive (mate) side patching. Table PADNDEV holds the name of the device(s) (up to three) that will be searched for patches during the mate-side patching process.

The mate side patches are patches that have been released for the new load since the non-datafilled CM load was produced and shipped to the office. Normally, these patches are downloaded to the office before the scheduled ONP date.

---

1 **App/ACT** Locate mate patches that were downloaded before the ONP. The patches were downloaded to SFDEV or to another device.

---

2 **App/ACT** Verify table PADNDEV is datafilled to point to the device(s) where mate patches are found.

a. List the contents of table PADNDEV.

```
> TABLE PADNDEV;LIST ALL
```

b. If necessary make changes to table PADNDEV.

c. Quit the table.

```
> QUIT
```

Note: If changes are made to PADNDEV, you can restore the original data after SWACT. In procedure "Finish POSTSWACT" you will be reminded to restore table PADNDEV.

13.4TABXFR procedure

This section provides detailed steps required to transfer table data from the old (from-side) to the new (to-side) software load. The TABXFR increment is used to perform the data transfer portion of the software upgrade.

13.4.1 Procedure 1 - Bulletins before data transfer

| 1 | **App** Verify and perform all applicable software delivery bulletins and notices before beginning the data transfer (TABXFR) process. |

13.4.2 Procedure 2 - Office PARM verification

Office parameter (PARM) values for software upgrades are requested in advance of the ONP based on the PCL and Processor Code specified for the load. The PARM information for each office will be found in market-specific application files. The PARM information files contain the values for any requested changes, new, and deleted parameters. Before starting the TABXFR process the office PARM information should be reviewed for accuracy. If a market-specific application file (such as FEATDATA) is to be used to set the office parameters during TABXFR, the file should be reviewed for correctness before starting the TABXFR process.

Office parameters on the new software load can be verified after TABXFR restores the engineering tables which contain the PARM changes. TABXFR will restore these tables early in the data transfer process. When verifying office parameters on the new software load (Inactive side) *the following rules will apply*:

- Use the requested value found in the PARM information file. If there is no requested value use the reformatted value (the value restored by TABXFR).

- If there is no requested or reformatted value use the value found on the old software load (Active side).

- If a PARM is new with no requested value use the default value. Nortel Networks recommends the use of the value in the Engineering Parameter Sheet.

IMPORTANT: Office PARMS must be verified before the switch of activity (SWACT) to the new load.

13.4.3 Procedure 3 – TRACECI setup

1   **App/ACT** *If not previously done*—from the Active terminal set up TRACECI to monitor TABXFR summary and error messages on the Inactive terminal.

From the <u>ACT terminal</u> enter:

```
> TRACECI DEVICE <device_name>
```
Where <device_name> is the name of the <u>Inactive</u> terminal.

Or enter option:

```
> TRACECI ME
```

System response on the Inactive terminal should be:

```
This device is selected for TRACEing
```

13.4.4 Procedure 4 - TABXFR setup

1   **App/ACT** Reset the BCSUPDATE increment. This step is not needed if it was already performed in Procedure 14 of the Preliminary Phase procedure (Patch Inactive Load).

```
> BCSUPDATE;RESET
> YES                                              {for confirmation}

> QUIT
```

2   **App/INACT** Set up and initialize the TABXFR increment.

a.   `Mate> TABXFR`

     `TABXFR:`   *{system response}*

b.   `Mate> STOPIF 1`
Table transfer will stop after this number of table failures.

c.   `Mate> LIMIT 25`
Limits the number of tuple failures allowed in a table.

d.   `Mate> SETUP XACORE`

     `TABXFR type set to: XACORE.`   *{system response}*

e.   `Mate> STATUS`
Used to display information about the setup and status of the table data transfer. This command can be used at any time during TABXFR.

3   **App/INACT** Perform this step to stop TABXFR after table ACTPATCH transfers for verification of the Inactive ACT patch states, *or* omit this step and verify the Inactive ACT patch states after TABXFR completes.

```
Mate> STOPXFR AFTER ACTPATCH

Mate> STATUS
```

4   **App and Site/ACT** This step is left to operating company discretion. This should only be used if the operating company needs to acquire a hard copy of the TABXFR.

The operating company may elect to monitor the application process by recording onto a printer using the following command:

`> RECORD START FROM <`**`terminal_id`**`> ONTO <`**`printer`**`>`

Note: Avoid using unnecessary or slow devices to monitor the ONP (with RECORD START). This can slow the application and extend the out-of-sync time.

13.4.5 Procedure 5 - Start TABXFR

1   App Perform the following steps to complete the TABXFR process.

Note: If using NOP (X.25) data links do not LOGOUT of the Inactive side, as the link will be dropped. In the following steps the instructions for logging out of the mate side apply only if using regular dial-up ports.

a.   INACT Start the data transfer using TABXFR as follows:

```
Mate> TABXFR;STARTXFR;LOGOUT            {if X.25 do not logout}
```
TABXFR will perform an automatic Restart Reload after transferring each of the following tables: DATASIZE, NNASST, and TRKMEM. Following each restart, TABXFR will resume, starting from the next table listed in table DART.

Note: A list of empty headtables is sent to the Inactive side at the beginning of TABXFR. The Applicator may see empty subtables not on the list being transferred. This is normal and is design intent.

b.   Whenever it is necessary to access the Inactive (mate) side and perform work (such as to correct TABXFR errors, view tables, change tables, or change hardware states), *verify a flashing 00A1* on the Inactive processor before logging in. If 00A1 is not flashing it may be necessary to initialize the Inactive processor by using the 'MATELINK RTS' command.

As an example:
ACT
```
> MATELINK RTS
MATELINK RTS successful                  {system response}

> MATEIO
MATEIO setup successful                  {system response}

> MATELOG <device>
```
Where <device> is the name of the Inactive terminal.

Once the 'MATELOG' command has completed the system will respond with the following prompt on the Inactive (mate) terminal

INACT
```
Enter username and password              {mate-side response}
Mate>
```

Login on the mate side and perform any necessary work.

REMINDER: It is important to note that all terminal responses from the mate and all commands to the mate must have the cursor preceded by the string: Mate>

—continued—

Procedure 5
Start TABXFR (continued)

    c.   **INACT** When finished working on the mate side resume TABXFR and logout. Avoid unnecessary or prolonged logged-in sessions on the mate side while TABXFR is in progress.

```
Mate> TABXFR;STARTXFR;LOGOUT            {if X.25 do not logout}
```

    d.   **INACT** If TABXFR was set to stop after table ACTPATCH (if upgrading from Base04 and higher), verify all mate ACT patches did apply and activate properly. Make any necessary corrections before proceeding. Resume TABXFR by logging into the mate side (see substep b above) and typing:

```
Mate> TABXFR
Mate> STOPXFR CLEAR AFTER ACTPATCH
Mate> STARTXFR;LOGOUT                   {if X.25 do not logout}
```

    e.   **ACT** If any tuple fails to restore on the Inactive (mate) side, TABXFR will stop (depending on STOPIF and LIMIT) and will identify the headtable/subtable position in error.

For any "failed" table, *compare the old and new tuple(s) in error* to identify and correct the problem. Some data differences should be expected as ordered, others might be in error and need to be corrected. (If needed, contact the Translations Department or next level of support.)

Note: " **** Table is recursive" means a tuple in this table is referenced by another table. The recursive table must be transferred before the original table can be successfully datafilled. Normally no action is required to transfer a recursive-dependent table, since TABXFR will loop back as needed to datafill all referenced tuples.

13.4.6 Procedure 6 - TABXFR completed

1 **App** TABXFR is finished when you receive the following message.

```
INACT - Data move completed
```

2 **INACT** If not already done (after table ACTPATCH), verify all mate ACT patches did apply and activate properly. If any ACT patch applied during TABXFR, determine if it needs to be <u>activated</u> at this time. If required, the proper password will be supplied.

13.4.7 Procedure 7 - Login Inactive

1   **Site and App** Verify with site there is a flashing 00A1 on the Inactive processor.

2   **App** Login on the Inactive (mate) side as follows:

    a.   **ACT** On the Active terminal type:

```
> MATEIO
```

```
> MATELOG <device_name>
```
Where <device_name> is the name of the <u>Inactive</u> terminal.

    b.   **INACT** On the Inactive terminal type:

Enter username and password   *{mate-side response}*
```
Mate> OPERATOR OPERATOR
```

or   Enter username
```
Mate> OPERATOR
```

Enter password
```
Mate> OPERATOR
```

13.4.8 Procedure 8 - Print reports TABXFR

    1   **Site and App** Generate a final data transfer report. This will include the table exception report.

        a.   **ACT** Only if RECORD START was *not* done previously, type the following.

```
> RECORD START FROM <terminal_id> ONTO <printer>
```
Where <terminal_id> is the terminal device labeled INACT, and <printer> refers to a printer used to collect the TABXFR information.

        b.   **INACT** Print the final report.

```
Mate> TABXFR;REPORT
Mate> QUIT
```

        c.   **ACT** To STOP recording to the printer, type the following.

```
> RECORD STOP FROM <terminal_id> ONTO <printer>
```
Where <terminal_id> and <printer> are the devices used above.

13.4.9 Procedure 9 - Check logs Inactive

1   **App/INACT** Check Inactive (mate) logs to verify processor stability. Use LOGCHECK or open logs manually (TRAP, INIT, SWER, MS, XAC, and IOP).

```
Mate> BCSUPDATE;LOGCHECK                           {or list manually}

Mate> QUIT
```

IMPORTANT: Do not continue until all logs have been explained.

2   **App/INACT** Print trap information for the Inactive side.

```
Mate> TRAPINFO
```
Determine the significance of any trap that might have occurred.

If a trap has occurred, capture the full trap information.

```
Mate> TRAPINFO <trap #>
```
Where <trap #> is the number of the trap.

3   **App/INACT** Clear the trap information.

```
Mate> TRAPINFO CLEAR

Please confirm ("YES", "Y", "NO", OR "N")
Mate> Y
```

13.5 PRESWACT procedure

This section details steps required to prepare the office for the switch of activity (SWACT) to the new software load.

Important Reminder to the Operating Company
Site personnel should have by now verified their Test Calls Scripts. Any calling irregularities must be identified ahead-of-time to avoid unnecessary trouble-shooting after SWACT. If not already done—Site should now make the test calls, which will be used to verify the new software load (For additional guidelines refer to Appendix C).

13.5.1 Procedure 1 - Bulletins before PRESWACT

1 **App** Verify and perform all software delivery bulletins and workarounds that are required before beginning PRESWACT.

13.5.2 Procedure 2 - Start PRESWACT

PRESWACT will execute a series of steps required before the office switch of activity (SWACT) to the new load. If a step fails to complete, PRESWACT will stop and give additional information. Whenever PRESWACT stops use the information given to investigate and correct the problem. All PRESWACT steps must be completed before SWACT.

1   **App/ACT** Perform PRESWACT in the BCSUPDATE increment.

Note: Logout any unnecessary users on the Inactive side while PRESWACT is running.

```
> BCSUPDATE;STATUS PRESWACT;PRESWACT
```

If any PRESWACT step fails to complete and PRESWACT stops, make necessary corrections, then continue PRESWACT by typing:

```
> PRESWACT                                    {must be in BCSUPDATE}
```

Example printout of a failed PRESWACT step:

```
CHECK_ISN_PMS                     executing
Inactive CM BCS number is 44
MS 0                         load is 44 BM   - Passed
MS 1                         load is 44 BM   - Passed
ENET Plane 0 Pair 0          load is 44 BM   - Passed
ENET Plane 0 Pair 1          load is 44 BM   - Passed
LIM Unit 0                   load is 44 BM   - Passed
LIM Unit 1                   load is 44 BM   - Passed
NIU 0 Unit 0                 load is 44 BM   - Passed
NIU 0 Unit 1                 load is 44 BM   - Passed
LIU7 0                       load is 44 BM   - Passed
LIU7 11                      load is 44 BM   - Passed
XLIU 3                       load is 44 BM   - Passed
XLIU 4                       load is 44 BM   - Passed
XLIU 7                       load is 44 BM   - Passed
LIU7 24                      load is 44 BM   -       Failed
LIU7 23                      load is 44 BM   -       Failed

Please load all failed PMs with correct load.

Correct above error(s) and re-execute this step.

CHECK_ISN_PMS                     not complete
```

2   Read the following notes while PRESWACT is running.

Note 1: PRESWACT step TABLE_DELTA will display the "differences" (changes, additions, deletions) between the old and new software loads for the following engineering tables: OFCENG, OFCSTD, OFCVAR, OFCOPT, DATASIZE, TCAPTRID, and OPTCTL. If a table has differences, PRESWACT will stop after displaying the OLD/NEW, ADDED, or DELETED tuples, and will give a message indicating an "error" due to the mismatch.

—continued—

Procedure 2
Start PRESWACT (continued)

Example printout of TABLE_DELTA step:

```
TABLE_DELTA                        executing

Table OFCSTD
   Tuples do not match.  Old Count = 83.  New Count = 81
**ADDED   AUDVLOWFREQ 120

**OLD     BCS_NUMBER 39 0
**NEW     BCS_NUMBER 42 0

**OLD     CPSTACKSIZE 1504
**NEW     CPSTACKSIZE 2000

**ADDED   E911_NPD_TO_NPA_CONV_IN_EFFECT N

**DELETED CONSOLE_SILO_CHARS 510
**DELETED CONSOLE_SILO_RECORDS 20
**DELETED CUG_REGION 0
**DELETED MTCBASE_EXTRAMSG 1024
** Total mismatches are 8.

TABLE_DELTA                        not complete

ACT - Error: Inactive table data did not match.
Investigate and correct if needed.
```

For any table with differences, compare the OLD/NEW, ADDED, and
DELETED tuple(s) to identify and correct any errors. The engineering table
changes are requested in advance of the ONP and are documented in
market-specific "PARM" application files (such as FEATDATA). The office
PARM information can be used to verify if the TABLE_DELTA step is
correct. If any differences are found in error, correct them before continuing
with PRESWACT (see procedure 2: "Office PARM Verification" in the
TABXFR procedure section).

IMPORTANT: The DELTA command has been enhanced beginning with
Base11 loads to take into account any requested office PARM changes
made by the FEATDATA file during TABXFR. If the office is upgrading from
Base11 (and higher) loads, please refer to Appendix A. Make corrections if
required, then continue PRESWACT by typing:

> BCSUPDATE;PRESWACT

Note 2: PRESWACT step TABLE_DELTA may also display an "informative"
message without stopping. When this occurs, it is not considered an error;
rather, it is an indication that something is different in the old and new PCL.
Note the information displayed, and at a convenient stopping point, compare
the old and new loads to understand and validate the differences.

—continued—

Procedure 2
Start PRESWACT (continued)

As an example:

```
TABLE_DELTA             executing
:
Table ATTCONS Checksum incorrect, keys match
:
TABLE_DELTA             complete
```

Note 3: PRESWACT steps STATUSUPDATE or STATUSCHECK may not complete due to the status of certain devices on the Active or Inactive side.

As an example:

```
STATUSUPDATE            executing

*** All devices on active side must be either ***
*** OK or OFFLINE before proceeding.          ***

The following devices are NOT OK and NOT OFFLINE:

Node Device
---- ------
     LINK 2 on MPC 1
     LINK 2 on MPC 5

STATUSUPDATE            not complete
```

In order to complete the steps successfully, it will be necessary to change the state of the device(s) identified to either IN-SERVICE (OK) or OFFLINE.

The operating company is responsible for changing Active side device states, and the Applicator is responsible for Inactive side device states. If Active side devices were changed (for example, OFFLINE), it will also be an operating company responsibility to restore these devices after the ONP is completed.

For the above example, to determine what IOC # and CARD # the MPC is on, enter the following command string:

```
> MAPCI NODISP;MTC;IOD;LISTDEV MPC
> QUIT ALL
```

Make corrections if required, then continue PRESWACT by typing:

```
> BCSUPDATE;PRESWACT
```

Note 4: A hardware conversion (such as LTC/LTCI) scheduled concurrently with the PCL upgrade will require certain table changes, additions or deletions. PRESWACT step TABLE_DELTA will detect a difference between the old and new data, and will stop, indicating a mismatch. If this is the case, confirm the table differences are due to the conversion and verify the new data is correct.

Make corrections if required, then continue PRESWACT by typing:

```
> BCSUPDATE;PRESWACT
```

13.5.3 Procedure 3 - PRESWACT DIRP and billing

Perform this procedure after PRESWACT has completed.

Site and Applicator can work together to prepare the PRIMARY DIRP billing subsystems for the office switch of activity (SWACT). This procedure gives the steps to accomplish this preparation.

If office is using Automatic File Transfer (<u>AFT</u>) perform step 1.
If the PRIMARY billing is on <u>DPP/BMC</u> perform step 2.
If the PRIMARY billing is on <u>DISK</u> perform step 3.
If the PRIMARY billing is on <u>TAPE</u> perform step 4.
For all other <u>DIRP billing</u> preparation perform step 5.

Note: Offices equipped with SDM do not require any preparation.

1   **Automatic File Transfer (AFT)**

If office is using AFT determine from operating company personnel what AFT sessions are active.

```
> AFT
> QUERYAFT <aft_session>
```
Where <aft_session> is the NETCON id in table RASLAPPL.

STOP any active AFT session. All active AFT sessions must be stopped prior to rotating DIRP subsystems.

```
> STOPAFT <aft_session>              {verify "STOPPED" in status bar}
```

ROTATE any active DIRP subsystem (such as OM OCC CDR).

Example:
```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY <dirp_subsystem>
```
Where <dirp_subsystem> can be OM, OCC, CDR, and others.

```
> ROTATE <dirp_subsystem>
> YES
> QUERY <dirp_subsystem>                          {to verify rotated}
```

Verify the rotated files completed transfer and each AFT session is IDLE.

```
> AFT
> QUERYAFT <aft_session>              {verify "IDLE" in status bar}
> QUIT
```

Perform additional DIRP and billing steps if required.

—continued—

Procedure 3
PRESWACT DIRP and billing **(continued)**

2 **DPP/BMC PRIMARY billing**

Make note of the following information for reference:

```
> MAPCI NODISP;MTC;IOD
> LISTDEV MTD;DIRP              {data to use when remounting}
> QUERY AMA                     {Note the STANDBY volume}
```

IMPORTANT: Ask operating company personnel if any of the tape devices defined in table DIRPPOOL are poll-able devices (excluding parallel tapes); and if so, then what vendor? The following may apply to not only AMA, but also SMDR or other DIRP subsystems. This step only covers the example for AMA. Do not continue until all tape devices are verified.

This step does not apply to other vendors' poll-able devices (such as PDU, CGI, ECU, and others).

In a pool of DPP or BMC volumes, field DEVTYPE in table DIRPPOOL should be 'DPP' (not 'TAPE').

This step is not for BMC/TAPE COMBO.

This step does not apply to parallel volumes.

Note: While performing this step, it may be convenient to have other devices mapped up in the display mode.

If DPP perform substep 2a below.

If BMC perform substep 2b below.

a. **DPP AMA preparation**

For the following commands, <x> is the STANDBY volume.

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT DPPAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Verify the STANDBY volume is mounted before continuing.

```
> ROTATE AMA
> YES
> QUERY AMA
```

—continued—

Procedure 3
PRESWACT DIRP and billing **(continued)**

Make note of the new STANDBY volume.

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT DPPAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Ensure *both* Active and STANDBY are mounted and IOD alarms (AMA/DPP) are cleared in the MAP level before continuing.

```
> DPP AMA
> IDXMAINT CREATE FILE AMA
> YES
```

Verify in the MAP level that there are no IOD alarms as a result of this step.

```
> QUIT MAPCI
```

b. BMC AMA preparation

Perform this substep only if *both* Active and Standby are BMC (*not* BMC and Tape).

For the following commands, <x> is the STANDBY volume.

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT BMCAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Verify the STANDBY volume is mounted before continuing.

```
> ROTATE AMA
> YES
> QUERY AMA
```

—continued—

Procedure 3
PRESWACT DIRP and billing (continued)

Make note of the new STANDBY volume.

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT BMCAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Ensure *both* Active and STANDBY volumes are mounted.

Verify in the MAP level that there are no IOD alarms as a result of this step.

```
> QUIT MAPCI
```

3   PRIMARY billing on DISK

If primary billing is on a disk perform the following.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY AMA                              {Note the STANDBY volume}
```

ROTATE any Active billing subsystem (such as AMA SMDR OCC CDR).

Example:
```
> ROTATE AMA
> YES
> QUERY AMA                                    {to verify rotated}
```

If required by operating company policy copy unprocessed DIRP files to back-up tape (using DIRPAUTO or DIRPCOPY commands).

Verify that table DIRPHOLD contains no unprocessed billing files (if DIRPAUTO was used above).

—continued—

Procedure 3
PRESWACT DIRP and billing (continued)

4   PRIMARY billing on TAPE

If primary billing is on a tape perform the following.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY AMA                            {Note the STANDBY volume}
```

ROTATE any Active billing subsystem (such as AMA SMDR OCC CDR).

Example:
```
> ROTATE AMA
> YES
> QUERY AMA                                   {to verify rotated}
```

CLOSE the STANDBY file, and DMNT the STANDBY volume.

Example:
```
> CLOSE AMA STDBY 1
> DMNT AMA T1
```

Remove the demounted STANDBY tape from the tape drive, and put up a *new tape* to be used as the next DIRP volume.

Prepare a new STANDBY volume as follows.

```
> MOUNT <x> FORMAT <volume_id>
```
Where <x> is the STANDBY device number, and <volume_id> is the name of the STANDBY volume.

If prompted enter the first filename, or if system response is:
"request aborted. Tape not expired (use ERASTAPE)"
then select an unused or expired tape for formatting.

```
> DEMOUNT T<x>
```

Leave the STANDBY volume at load point and ON LINE. Then, immediately after SWACT it will become the ACTIVE volume of the appropriate subsystem.

—continued—

Procedure 3
PRESWACT DIRP and billing (continued)

5   DIRP DISK preparation

This step <u>does not apply</u> to DIRP devices already addressed above (that is, primary billing on DPP/BMC, DISK, or TAPE).

ROTATE any other DIRP DISK volumes before SWACT.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY <dirp_subsystem>
```
Where <dirp_subsystem> can be DLOG, SMDR, OM, JF, and others.

```
> ROTATE <dirp_subsystem>
```

---

6   Parallel DIRP preparation

App Applicator should make a note of how the PARALLEL devices are allocated in table DIRPPOOL.

Site The operating company is responsible to recover parallel AMA as required after SWACT. Parallel DDU should come up automatically, parallel tape will have to be remounted, preferably with new tape.

Note: DIRP does not support parallel AMA recording on a DPP or BMC volume. Table control prohibits the filling of devtype DPP in a parallel pool.

<div style="border:1px solid">

CAUTION
Recently recorded parallel data may be overwritten.

Site should copy the parallel files to tape to prevent loss of parallel data if this is the operating company policy.

• If a single parallel volume is in use, information on the volume will be lost over SWACT.

• If more than one parallel volume is allocated, DIRP will start recording after SWACT on the volume with the oldest timestamp. Hence, information on that volume will be lost over SWACT.

</div>

13.6 SWACT and POSTSWACT procedure

This section details steps required to perform the office switch of activity (CM SWACT) on the DMS-Core, test the new load, and complete the software delivery process.

ATTENTION: Before the Applicator can start this procedure, the on-site Installer must first complete Section 4.4, Procedure 3, Step 1 of Installation Method IM 78-6175 "XA-Core Upgrade to Release 2 Configuration."

13.6.1 Procedure 1 - Bulletins before SWACT

1   **App** Verify and perform all software delivery bulletins and workarounds that are required before beginning the SWACT and POSTSWACT procedure.

13.6.2 Procedure 2 - Before SWACT

1   **Site** Do not proceed until both the operating company and Nortel Networks on-line support agrees.

2   **Site** Contact high profile customers and customers with essential services (that is, police and emergency bureaus, hospitals, and radio stations) to verify they are not in emergency call processing mode.

3   **Site** If DNC is in use, confirm that all DNC end users have been contacted and are logged out.

4   **Site** Ensure no further activity is performed on the DPP, including DPP polling or disk backup. Inform the downstream processing center.

5   **Site** Disable all polling and periodic testing. There is to be no activity on the SuperNode XAC, MS, and CLOCK until cleared by the software delivery engineer. Failure to comply may result in a system restart.

6   **Site** Ensure that REGISTER readings have been taken—if these readings are required in this office. Switch usage is monitored under the REGISTER MAP level.

7   **Site** Dump SPMS (Switch Performance Monitoring System) register information to a printer if required by the operating company.

13.6.3 Procedure 3 - Start logs before SWACT

1   **App/ACT**   Set up LOGS for the SWACT

Note: The purpose of this step is to turn on logs at the terminal designated as the "ACT" device. Normally, logs will have been routed also to a printer at the start of the session.

a.   `> LOGUTIL;STOP`

b.   `> DELDEVICE <`**`device_name`**`>`
Where <device_name> is where logs will be routed.

c.   `> ADDREP <`**`device_name`**`> SWCT XAC`

d.   `> START`
This starts logs on "this" device. If a different terminal device was selected above, then use >STARTDEV <device_name>.

e.   `> LEAVE`

13.6.4 Procedure 4 - Run STATUSCHECK

1 **App/ACT** Run STATUSCHECK to compare hardware status of the two sides. (Status must be OK, OFFLINE, or UNEQUIPPED.) This also verifies communication with the mate side.

Note: STATUSCHECK *may* cause a restart on the Inactive side (watch the Inactive RTIF). If the Inactive side does restart, it should initialize and come back to a flashing 00A1.

a. `> BCSUPDATE;SWACTCI;STATUSCHECK`

b. Ensure the STATUSCHECK passes (both sides match).
If STATUSCHECK fails, investigate and correct any hardware mismatches and any devices not OK or OFFLINE. Once all problems have been corrected, rerun STATUSCHECK and ensure it passes.

Note: The operating company is responsible for changing Active side device states, and the Applicator is responsible for Inactive side device states.

13.6.5 Procedure 5 - Check logs Inactive

1 **App/INACT** Check Inactive (mate) logs to verify processor stability. Use LOGCHECK or open logs manually (TRAP, INIT, SWER, MS, XAC, and IOP).

```
Mate> BCSUPDATE;LOGCHECK                              {or list manually}

Mate> QUIT
```

IMPORTANT: Do not continue until all logs have been explained.

---

2 **App/INACT** Print trap information for the Inactive side.

```
Mate> TRAPINFO
```
Determine the significance of any trap that might have occurred.

If a trap has occurred, capture the full trap information.

```
Mate> TRAPINFO <trap #>
```
Where <trap #> is the number of the trap.

---

3 **App/INACT** Clear the trap information.

```
Mate> TRAPINFO CLEAR

Please confirm ("YES", "Y", "NO", OR "N")
Mate> Y
```

13.6.6 Procedure 6 - SWACT

Refer to the CC WarmSWACT summary section in Appendix A for a description of the CC WarmSWACT process.

Note 1: Only simple 2-port and echo calls that are in a stable talking state (that is, not in a transition state such as dialing) will survive a CC WarmSWACT. Survival means that the call is kept up until the next signaling message is received (usually, for example, a terminate message, but on any other message as well, such as an attempt to use the conference feature).

Note 2: Attendant Consoles will be in night service after the SWACT if the INSV field is set to Y in table ATTCONS.

1   **App/ACT** Wait a *minimum* of 10 minutes after the *completion* (flashing 00A1) of the last RESTART on the Inactive side before entering the appropriate switch of activity (SWACT) command.

CAUTION
FAILURE TO WAIT AT LEAST 10 MINUTES may result in the office doing a restart reload instead of a controlled SWACT.
Remember, a STATUSCHECK or MATELINK RTS FORCE can each cause an Inactive side (mate) restart.

---

2   **App/ACT** INTERNATIONAL offices switch CC activity (SWACT) as follows. *All others go to the next step.*

   Note: This step is valid if International Common Basic is built into the load.

   > INTLSWCT;DATE;RESTARTSWCT   *{only for INTL offices}*

—continued—

Procedure 6
SWACT (continued)

3   **App/ACT** All other offices (not INTL) switch CC activity (SWACT) with CC WarmSWACT as follows.

   a.   `> BCSUPDATE;SWACTCI;QUERYSWACT`
   System prompt will tell you which SWACT command to use, either NORESTARTSWACT or RESTARTSWACT:

   b.   > Choose the correct command and begin the SWACT by typing:

   `> DATE;NORESTARTSWACT`
   Respond (yes/no) to system prompt using lower-case.

   or else,

   `> DATE;RESTARTSWACT`
   System response varies with the PCL level, but the following is a typical example.

   ```
   ACTIVE DEFAULT SETTINGS:
   NOMATCH    set OFF
   Do you wish to continue?
   Please confirm ("YES" or "NO"):
   ...Starting WarmSWACT now.
   ```

4   **Site/ACT** Monitor the SWACT, and inform the Applicator as soon as the Active side processor is flashing 00A1.

CAUTION
Work quickly to complete the procedures that follow.
The POSTSWACT steps will verify that the office is functioning normally with the new software load.

13.6.7 Procedure 7 - Start POSTSWACT

1   **App/ACT** After SWACT, perform the following steps.

Type:

```
<break>
```

```
?LOGIN
Enter username and password                    {system response}
```

   > <**username**> <**password**>

or   > <**username**>
     > <**password**>

---

2   **App/ACT** Verify the DATE and time are correct.

   > DATE

---

3   *IMPORTANT:* Instruct the operating company to perform a 911 test call. If the test call fails to complete contact Nortel Networks Emergency Recovery immediately. **Do not continue**. If the test call is successful continue and begin POSTSWACT.

---

4   **App/ACT** Start POSTSWACT.

   > BCSUPDATE;POSTSWACT

POSTSWACT executes all steps required after the CC switch of activity and sets them as "complete" when they pass. If any step fails to complete, POSTSWACT will stop and give additional information. Use the information given to investigate and correct the problem. After making corrections, continue running POSTSWACT by typing:

   > POSTSWACT   *{still in BCSUPDATE}*

Note: If no problems are encountered, POSTSWACT stops after step BEGIN_TESTING and waits until the operating company verifies the sanity of the current load.

---

5   *IMPORTANT: After starting POSTSWACT, ensure the following actions take place:*

   a) System recovery of all DIRP billing subsystems,
   b) System recovery of any critical alarms,
   c) Operating company begin Test Calls, and
   d) System logs are monitored for office stability.

13.6.8 Procedure 8 - Recover DIRP and billing

Site and App/ACT POSTSWACT recovers PRIMARY (regular) billing subsystems such as AMA, SMDR, OCC, CDR and AFT. Confirm that affected DIRP subsystems were successfully activated. If billing is on tape (MTD) manually assign the STANDBY volumes. Then site may manually bring up PARALLEL subsystem(s) as required.

1
```
> MAPCI;MTC;IOD;DIRP
> QUERY AMA ALL                              {note which volume is ACTIVE}
```

2 If DPP or BMC, call downstream processing to POLL billing data. (Polling is optional. It may also be done after test calls are completed.)

3 Remount TAPEX volumes using the DIRP MNT command.

4 As needed, assign STANDBY billing devices for TAPE and DPP/BMC.

Note: For details refer back to procedure 3 "PRESWACT DIRP and billing" in the PRESWACT procedure section.

5 If using SMDR, rotate the SMDR volume from the DIRP level of the MAP (this will ensure the RECORD HEADER is correct). If SMDR recording is on BMC and no standby volume is available, then mount a temporary STDBY TAPE volume. Rotate the BMC port OUT and back IN. Remove the tape volume after this is done.

Note: Since some SMDR recording applications on BMC collect SMDR records based on the customer group ID only, this ensures that any changes to the customer group IDs are passed to the BMC upon rotate (and the RECORD HEADER is correct).

6 If using AFT, ensure process has started and all active AFT sessions are in SENDING state. If needed, start AFT sessions manually.

```
> AFT
> STARTAFT <aft_session>
> QUERYAFT <aft_session>              {verify "SENDING" in status bar}
> QUIT
```

7 As needed, bring up PARALLEL devices.

8 Verify all regular and parallel devices are working for all available billing subsystems in DIRP.

13.6.9 Procedure 9 - Restart Inactive POST

A restart reload on the Inactive side is done at this time as a precaution in order to save time in the event that a Revert to the old load should become necessary.

1   **App/INACT** Perform a restart reload on the Inactive processor (old PCL load).

    a.   From the XAC;PE MAP level, ensure the Inactive PE is *not* under test (ut). If it is, WAIT FOR THE TESTING TO COMPLETE.

    b.   From the Active CI prompt perform a restart reload on the <u>Inactive</u> processor (old load).

```
CI:
> TASTOOLCI

TASTOOLCI:
> INACTIVE_RESTART RELOAD

> Y                                    {for confirmation}
```

    c.   Allow initialization on the Inactive side. Inform the Applicator when the Inactive processor is flashing 00A1.

2   **App/INACT** Confirm that the Inactive processor is flashing 00A1.

13.6.10   Procedure 10 - Monitor logs after SWACT

1   **App/INACT** Monitor LOGS after the SWACT then do a LOGCHECK.

The purpose of this step is to turn on *Active-side* logs at the terminal designated as the "INACT" device (since POSTSWACT is running on the ACT device). Any other terminal device may also be used. Logs can also be routed to a printer for the remainder of this session.

a.   `> LOGUTIL;OPEN SWCT;BACK ALL`
This prints out SWACT time, SWACT duration and other SWACT information.

b.   `> LOGUTIL;START;QUIT`
This starts logs on "this" device. If a different terminal device is desired, then use >STARTDEV <device>.

c.   Let logs run for at least 30 minutes, then run LOGCHECK.

```
> LOGUTIL;STOP;QUIT
> BCSUPDATE;LOGCHECK;QUIT
```

d.   When LOGCHECK is done, start logs again and let run until monitoring is completed. (Repeat substep b.)

13.6.11   Procedure 11 - Do Test Calls

1   **Site** Verify all Emergency Services are functioning.

Then, perform the TEST CALLS that were identified ahead-of-time.
Refer to the *Test Call Scripts*.

Note: Verify AMAB logs in conjunction with certain AMA test calls.

CAUTION

If a critical test failure occurs, it may be necessary to SWACT back to
the old load using the *Revert to old load procedure* in this Appendix.

13.6.12   Procedure 12 - Finish POSTSWACT

ATTENTION: Before the Applicator can start this procedure, the on-site Installer must first complete section 4.4, Procedure 3, Steps 4 through 13 of Installation Method IM 78-6175 "XA-Core Upgrade to Release 2 Configuration."

1   App/ACT POSTSWACT will STOP at step BEGIN_TESTING to allow the site to complete testing of the new load. After SITE accepts the new load, continue POSTSWACT as follows:

    a.   > REXTEST SUSPEND ALL

    b.   > PRSM;AUTOPROC ALL STOP;AUTOPROC ALL DELAY
         > QUIT

        Note: These commands allow final activities to occur without interruption, including dumping an image of the new PCL.

    c.   > POSTSWACT   *{still in BCSUPDATE}*

        At this point BCSUPDATE will run the remaining POSTSWACT steps and set them to "complete" when they pass. If any step fails, follow given instructions to correct the problem, then continue by typing: POSTSWACT.

2   App/ACT As part of the POSTSWACT process, when prompted for XA_UNSPLIT answer "Y" for yes.

    Note: With an entry of "Y" (yes) a Revert to the previous load is not possible.

3   App/ACT Clean up SFDEV by <u>erasing any</u> <u>application-related files</u> (for example: FEATDATA, SITEINFO, and DIRP_INAC).

4   Site/ACT For security the operating company should verify passwords for users ADMIN and OPERATOR.

5   Site/ACT Reassign all current PROFILE information (LOGIN or RESTART) in SFDEV.

—continued—

Procedure 12
Finish POSTSWACT (continued)

6	**Site/ACT** Reassign any temporary log ROUTING setup via LOGUTIL.

7	**App/ACT** If table PADNDEV was manually changed for mate-side patching, restore the original data in this table to point to the correct patch download device(s).

8	**Site/ACT** Reassign any changes in the INTEG level of the MAP (for example, UPTH, BUFFSEL, FILTER and others).

9	**Site/ACT** Return PORTS and USER information back to original values.

10	**Site/ACT** Notify DNC end-users to LOGIN the DNC.

11	**Site/ACT** If Network Management <u>code blocking</u> was removed earlier, have Network Maintenance personnel restore code blocking active.

13.6.13   Procedure 13 - Start journal file

1   **App/ACT** If equipped, start journal file and verify started.

  a.   `> JF START`

  b.   `> MAPCI;MTC;IOD;DIRP`

  c.   `> QUERY JF ALL`
  QUERY JF should respond with "AVAIL." If a standby device is being used, both active and standby volumes should be marked "AVAIL."

  d.   `> QUIT ALL`

13.6.14   Procedure 14 - DRTIME statistics

DRTIME provides statistics on the table data transfer processes. If requested, this information should be forwarded to the appropriate Nortel Networks department.

1   **Site and App/ACT** Obtain the DRTIME statistics (if needed).

```
> DRTIME PRINT
```

ATTENTION: At this point the Applicator will hand over control of the office to the on site Installer who will complete the remaining procedures of Installation Method IM 78-6175 "XA-Core Upgrade to Release 2 Configuration."

This completes the XA-Core Release Upgrade procedure.

13.7 Revert to old load procedure

This section details steps required to Revert (SWACT back) to the old PCL software. Perform the following procedure if a controlled Revert is necessary after the office switch of activity (SWACT) on the DMS SuperNode XA-Core. In most cases and under normal circumstances, the Revert to old load process will take approximately 45 minutes to complete.

Note: This procedure supports Revert from Release 2 to Release 1 only if the XA-Core has not been UNSPLIT. After the system is UNSPLIT, no Revert process is supported.

<u>*REMINDER*</u>*:* The CPU with the new software is now *Active*. You will be reverting back to the old software load that is now *Inactive*.

CAUTION
<u>*Do not*</u> **attempt to use "NORESTARTSWACT" to Revert back to old software load.**
Instead, use the procedure steps below. The NORESTARTSWACT command is not designed to Revert back to the previous software load.

13.7.1 Procedure 1 - Before Revert

1　　**Site** Do not proceed until both the operating company and Nortel Networks on-line support agree.

2　　**Site** Contact high profile customers and customers with essential services (that is, police and emergency bureaus, hospitals, and radio stations) to verify they are not in emergency call processing mode.

13.7.2 Procedure 2 - Restart Inactive Revert

CAUTION

<u>Do not</u> perform this procedure if the Inactive restart reload was already done and the Inactive side processor is now flashing 00A1.

---

1   **App/INACT** Perform a restart reload on the Inactive processor.

    a.   From the XAC PE MAP level, ensure the Inactive PE is not under test (ut). If it is, WAIT FOR THE TESTING TO COMPLETE.

    b.   From the Active CI prompt perform a restart reload on the Inactive processor (old load).

```
CI:
> TASTOOLCI

TASTOOLCI:
> INACTIVE_RESTART RELOAD                    {for confirmation}
```

    c.   Allow initialization on the Inactive side. Inform the Applicator when the Inactive processor is flashing 00A1.

---

2   **App/INACT** Confirm that the Inactive processor is flashing 00A1.

13.7.3 Procedure 3 - Run STATUSCHECK

1   **App/ACT** Run STATUSCHECK to compare hardware status of the two sides. (Status must be OK, OFFLINE, or UNEQUIPPED.) This also verifies communication with the mate side.

Note: STATUSCHECK *may* cause a restart on the Inactive side (watch the inactive RTIF). If the Inactive side does restart, it should initialize and come back to a flashing 00A1.

a.   `> BCSUPDATE;SWACTCI;STATUSCHECK`

b.   Ensure the STATUSCHECK passes (both sides match).
If STATUSCHECK fails, investigate and correct any hardware mismatches and any devices not OK or OFFLINE. Once all problems have been corrected, rerun STATUSCHECK and ensure it passes.

Note: The operating company is responsible for changing Active side device states, and the Applicator is responsible for Inactive side device states.

13.7.4 Procedure 4 - Login Inactive Revert

1   **Site and App** Verify with site there is a flashing 00A1 on the Inactive processor.

2   **App/INACT** Login on the Inactive (mate) side as follows:

   a.   On the Active terminal type:

```
> MATEIO
```

```
> MATELOG <device_name>
```
Where <device_name> is the name of the <u>Inactive</u> terminal.

   b.   On the Inactive terminal type:

Enter username and password   *{mate-side response}*
```
Mate> <username> <password>
```

or   Enter username
```
Mate> <username>
```

Enter password
```
Mate> <password>
```

13.7.5 Procedure 5 - Configure DIRP and billing

1   **Site and App** Configure the DIRP and billing subsystems for a revert (SWACT back) to the old load.

Note: For details refer back to the "DIRP and billing procedure" in the PRESWACT procedure section.

a.   Take down billing tapes and format new standby volumes in DIRP. Leave these de-mounted; they will become the Active volumes after SWACT.

Disk volumes will rotate and recover automatically after SWACT.

Parallel volumes on tape should be recovered manually after SWACT.

b.   Ensure datafill is correct on the Inactive (mate) side for table DIRPPOOL.

c.   If DIRP_INAC file is present in mate SFDEV, ensure each entry in this file is correct for the revert SWACT.

Note: In DIRP_INAC the parallel volume assignments for DIRPPOOL should be set to nil ($) for all pools.

13.7.6 Procedure 6 - Start logs before Revert

1   **App/ACT** Set up LOGS for the Revert.

Note: The purpose of this step is to turn on logs at the terminal designated as the "ACT" device. Normally, logs will have been routed also to a printer at the start of the session.

a.   > LOGUTIL;STOP

b.   > DELDEVICE <**device_name**>
Where <device_name> is where logs will be routed.

c.   > ADDREP <**device_name**> SWCT XAC

d.   > START
This starts logs on "this" device. If a different terminal device was selected above, then use >STARTDEV <device_name>.

e.   > LEAVE

13.7.7 Procedure 7 - Revert

1 **App/ACT** Wait a *minimum* of 10 minutes after the *completion* (flashing 00A1) of the last RESTART on the Inactive side before entering the ABORTSWACT or RESTARTSWCT command.

CAUTION
FAILURE TO WAIT AT LEAST 10 MINUTES may result in the office doing a restart reload instead of a controlled SWACT.
Remember, a STATUSCHECK or MATELINK RTS FORCE can each cause a mate restart.

---

2 **App/ACT** INTERNATIONAL offices switch CC activity (SWACT) as follows. *All others go to the next step.*

Note: This step is valid if International Common Basic (NTX470AA) is built into the load.

> INTLSWCT;DATE;RESTARTSWCT   *{only for INTL offices}*

3 **App/ACT** All other offices (not INTL) switch CC activity (SWACT) with CC WarmSWACT as follows.

> BCSUPDATE;SWACTCI;DATE;ABORTSWACT

CAUTION
The ABORTSWACT command has an option called NOCHECK which will allow the CC WarmSWACT to continue even if there are bad devices on the Active side (such as a CBSY LTC).
Use the NOCHECK option *only* as a last resort and with special care taken to ensure office integrity.

Response varies with PCL level, but the following is a typical example.

```
ACTIVE DEFAULT SETTINGS:
NOCHECK     set OFF
NOMATCH     set OFF
Do you wish to continue?
Please confirm ("YES" or "NO"):

...Starting WarmSWACT now.
```

—continued—

Procedure 7
Revert   (continued)

4   **Site/ACT** Monitor the SWACT, and inform the Applicator as soon as the
          Active side processor is flashing 00A1.

CAUTION
Work quickly to complete the procedures that follow.
The POSTSWACT steps will verify that the office is functioning normally
with the old software load.

13.7.8 Procedure 8 - Start POSTSWACT Revert

1   App/ACT After ABORTSWACT, perform the following steps.

Type:

<break>

```
?LOGIN
Enter username and password                          {system response}
```

> **<username>** **<password>**

or   > **<username>**
> **<password>**

---

2   App/ACT Verify the DATE and time are correct.

> DATE

---

3   _IMPORTANT_: Instruct the operating company to perform a 911 test call. If the test call fails to complete contact Nortel Networks Emergency Recovery immediately. If the test call is successful continue and begin POSTSWACT*.*

---

4   App/ACT Reset the TABXFR process.

> TABXFR*;*CANCEL
> Y   *{for confirmation}*

---

5   App/ACT Start POSTSWACT.

> QUIT ALL*;*BCSUPDATE*;*POSTSWACT

POSTSWACT executes all steps required after the CC switch of activity and sets them as "complete" when they pass. If any step fails to complete, POSTSWACT will stop and give additional information. Use the information given to investigate and correct the problem. After making corrections, continue running POSTSWACT by typing:

> POSTSWACT   *{still in BCSUPDATE}*

Note: If no problems are encountered, POSTSWACT stops after step BEGIN_TESTING and waits until the operating company verifies the sanity of the current load.

---

6   _IMPORTANT_: Ensure the following actions take place:

a) System recovery of all DIRP billing subsystems,
b) System recovery of any critical alarms,
c) Operating company begin Test Calls, and
d) System logs are monitored for office stability.

13.7.9 Procedure 9 - Recover DIRP and billing

Site and App/ACT POSTSWACT recovers PRIMARY (regular) billing subsystems such as AMA, SMDR, OCC, CDR and AFT. Confirm that affected DIRP subsystems were successfully activated. If billing is on tape (MTD) manually assign the STANDBY volumes. Then site may manually bring up PARALLEL subsystem(s) as required.

1   `> MAPCI;MTC;IOD;DIRP`
       `> QUERY AMA ALL`   *{note which volume is ACTIVE}*

2   If DPP or BMC, call downstream processing to POLL billing data. (Polling is optional. It may also be done after test calls are completed.)

3   Remount TAPEX volumes using the DIRP MNT command.

4   As needed, assign STANDBY billing devices for TAPE and DPP/BMC.

   Note: For details refer back to procedure 3 "PRESWACT DIRP and billing" in the PRESWACT procedure section.

5   If using SMDR, rotate the SMDR volume from the DIRP level of the MAP (this will ensure the RECORD HEADER is correct). If SMDR recording is on BMC and no standby volume is available, then mount a temporary STDBY TAPE volume. Rotate the BMC port OUT and back IN. Remove the tape volume after this is done.

   Note: Since some SMDR recording applications on BMC collect SMDR records based on the customer group ID only, this ensures that any changes to the customer group IDs are passed to the BMC upon rotate (and the RECORD HEADER is correct).

6   If using AFT, ensure process has started and all active AFT sessions are in SENDING state. If needed, start AFT sessions manually.

   `> AFT`
   `> STARTAFT <`**`aft_session`**`>`
   `> QUERYAFT <`**`aft_session`**`>`   *{verify "SENDING" in status bar}*

   `> QUIT`

7   As needed, bring up any PARALLEL devices.

8   Verify all regular and parallel devices are working for all available billing subsystems in DIRP.

13.7.10   Procedure 10 - Monitor logs after Revert

1   App/INACT Monitor LOGS after the ABORTSWACT then do a
LOGCHECK.

Note: The purpose of this step is to turn on *Active-side* logs at the terminal
designated as the "INACT" device (since POSTSWACT is running on the
ACT device). Any other terminal device may also be used. Logs can also
be routed to a printer for the remainder of this session.

a.   > LOGUTIL;OPEN SWCT;BACK ALL
*This prints out SWACT time, SWACT duration and other SWACT
information.*

b.   > LOGUTIL;START;QUIT
*This starts logs on "this" device. If a different terminal device is
desired, then use >STARTDEV <device>.*

c.   Let logs run for at least 30 minutes, then run LOGCHECK.

> LOGUTIL;STOP;QUIT
> BCSUPDATE;LOGCHECK;QUIT

d.   When LOGCHECK is done, start logs again and let run until
monitoring is completed. (Repeat substep b.)

13.7.11   Procedure 11 - Do Test Calls Revert

1   **Site** Verify all Emergency Services are functioning.

Then, perform the TEST CALLS that were identified ahead-of-time.
Refer to the *Test Call Scripts*.

Note: Verify AMAB logs in conjunction with certain AMA test calls.

---

2   **Site and App/INACT** If asked to do so by technical support and only with approval, dump an image of the Inactive (mate) side.

Only after this mate image is completed should the processors be put back in sync (next procedure).

13.7.12   Procedure 12 - Finish POSTSWACT Revert

1   **App/ACT** POSTSWACT will STOP at step BEGIN_TESTING to allow the
site to complete testing. When testing is complete, continue POSTSWACT
as follows:

   a.   `> REXTEST SUSPEND ALL`

   b.   `> PRSM;AUTOPROC ALL STOP;AUTOPROC ALL DELAY`
            `> QUIT`

   These commands allow final activities to occur without interruption,
   including dumping an image of the new PCL.

   c.   `> POSTSWACT`   *{still in BCSUPDATE}*

   At this point BCSUPDATE will run the remaining POSTSWACT steps
   and set them to "complete" when they pass. If any step fails, follow
   given instructions to correct the problem, then continue by typing:
   POSTSWACT.

---

2   **App/ACT** As part of the POSTSWACT process, when prompted for
XA_UNSPLIT answer "Y" for yes. With an entry of "Y" (yes) a Revert to the
previous load is not possible

   Note: After a Revert from Release 2 to Release 1, the Site may remain in
   the 2+1 Processor Element configuration without any impact to the XA-
   Core.

---

3   **App/ACT** Clean up SFDEV by <u>erasing any</u> <u>application-related files</u> (for
example: FEATDATA, SITEINFO, and DIRP_INAC).

---

4   **Site/ACT** For security the operating company should verify passwords for
users ADMIN and OPERATOR.

---

5   **Site/ACT** Reassign all current PROFILE information (LOGIN or
RESTART) in SFDEV.

---

6   **Site/ACT** Reassign any temporary log ROUTING setup via LOGUTIL.

---

7   **App/ACT** If table PADNDEV was manually changed for mate-side
patching, restore the original data in this table to point to the correct patch
download device(s).

—continued—

Procedure 12
Finish POSTSWACT Revert (continued)

8	**Site/ACT**	Reassign any changes in the INTEG level of the MAP (for example, UPTH, BUFFSEL, FILTER and others).

9	**Site/ACT**	Return PORTS and USER information back to original values.

10	**Site/ACT**	Notify DNC end-users to LOGIN the DNC.

11	**Site/ACT**	If Network Management code blocking was removed earlier, have Network Maintenance personnel restore code blocking active.

13.7.13   Procedure 13 - Start journal file

1   **App/ACT** If equipped, start journal file and verify started.

    a.   `> JF START`

    b.   `> MAPCI;MTC;IOD;DIRP`

    c.   `> QUERY JF ALL`
        QUERY JF should respond with "AVAIL." If a standby device is being used, both active and standby volumes should be marked "AVAIL."

    d.   `> QUIT ALL`

13.7.14   Procedure 14 - Reset ONP steps

1   **App/ACT** Do this step to reset the ONP steps on the current load to their original configuration.

a.   Reset the application processes.

```
> BCSUPDATE;ABORT_PRESWACT
```

```
> YES                                          {for confirmation}
```

```
> QUIT ALL
```

b.   Verify that tuple DUMP_RESTORE_IN_PROGRESS is set to "N" in table OFCSTD.

```
> TABLE OFCSTD
```

```
> POS DUMP_RESTORE_IN_PROGRESS
```

If not set to "N" then:

```
> RWOK ON;OVE;VER OFF
```

```
> CHA 2 N
```

```
> QUIT ALL
```

End of Revert to old load procedure.

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14 Appendix E: CMMOCK Procedure

14.1 About this appendix

The CMMOCK process is applicable when upgrading *from* a Product CM Load (PCL) that is built on Base07 and higher. This means the procedures in this appendix can be used if the current CM software load is at least CSP06/Base07 or higher ("CSP" is communications software platform). This includes CSP06 PCLs such as NA006 and higher.

This procedure supports software applications on both the DMS-Core Computing Module (CM) and the extended Architecture Core (XA-Core) computing engines for DMS 100 Family Switches, including SuperNode SE.

14.2 Introduction

14.2.1   General

CMMOCK is a term designated to mean a Customer Mock ONP (or Dry Run ONP) typically performed 5 to 10 days before the scheduled ONP. This process is used to verify the switch data integrity, and to ensure a successful transfer of this data to the new PCL software load. Any table data transfer (TABXFR) issues identified by the CMMOCK can be escalated to the appropriate translation group for resolution prior to the actual ONP (refer to TABXFR failures flowchart at end of this appendix). The CMMOCK process uses a subset of the AutoONP steps to perform a table data transfer and does not include the PRESWACT, SWACT, and POSTSWACT sections. The CMMOCK is designed to run the AutoONP up to the PRESWACT step, and then place the switch back in SYNC returning the office to its original state. It is not designed to proceed on after TABXFR and place the office on the new PCL software load.

The SWUPGRADE increment is used to perform the CMMOCK and maintains a list of steps to execute. A driver process executes the steps in sequence. It receives messages from the CI to continue execution (GO, CONTINUE or RESUME) or to execute a specific step (RUNSTEP). Whenever a step fails or requires user response, the process stops, the user responds to the problem and then types "GO" to continue until all steps have been executed. In order to allow the process to handle configuration data (such as the name of the trace device, image to loadmate from, etc.), a set of environment variables are maintained to store this data. Environment variables are defined in the first step (SETUP_ENV_VARS) and their values are required by the steps executed on the Active or Inactive side CM.

14.2.2   Special Features
How to insert/delete/modify steps
To allow customization of the CMMOCK, the user can change the steps that are normally performed. Commands are available to insert, delete, or otherwise modify the CMMOCK steps.

Use the INSERT command to add a new step or copy an existing step into another location in the step list.

REMOVE will remove any pause or step you have previously added.

OVERRIDE will override the execution of a step.

The PAUSE command is used to pause the process.

For additional information on SWUPGRADE CMMOCK commands, see section "SWUPGRADE summary" in Appendix A.

Use of the BULLETINS and PBS Workaround files
The BULLETINS and PBS Workaround files are maintained by the Nortel Networks Global Software Services organization. The BULLETINS file is used to provide as much automation as possible when performing the application bulletins and workarounds. The PBS Workaround file provides the operating company with a reference copy of all bulletin and notice workarounds for the CMMOCK. The PBS Workaround file is based on the "from and to" software loads and has the following naming convention:

   PBS*<from PCL><to PCL>*A   Example: PBSLEC012LEC015A

It is recommended that the BULLETINS file and all bulletin and notice workarounds identified in the PBS Workaround file be reviewed before starting the CMMOCK. When required, bulletin and notice workarounds should be followed and manually executed during the CMMOCK.

<u>IMPORTANT</u>: The BULLETINS file is a critical file that must be downloaded to SFDEV for execution during the CMMOCK.

- Step DOWNLOAD_FILES, towards the beginning of the CMMOCK process, will remind the user to download the BULLETINS file (along with other required files). If desired, print a hard copy of the BULLETINS file and review the file contents.

- Step READ_BULLETINS will read (that is, execute) the BULLETINS file during the CMMOCK.

CAUTION: **_If the BULLETINS file is missing from SFDEV or if it is named incorrectly, the CMMOCK will fail. For assistance with the BULLETINS and PBS Workaround files, contact the Global Software Services hotline for your market._**

Using the CANCEL command

The CANCEL command may be used to cancel CMMOCK at any time. When used, this command resets all SWUPGRADE steps and returns the switch to its original state.

Getting help on CMMOCK steps
Using DMS HELP

The SWUPGRADE increment is used to perform the CMMOCK. At any time within this increment you may type HELP for a list of the commands available. Also, the HELP command has options to obtain information about a command syntax, specific step, or variable.

HELP displays a brief description of the SWUPGRADE increment and a list of the available CI commands.

HELP <swupgrade command> displays a brief description and syntax of the command.

HELP STEP <step> displays a brief description of the functionality of the step.

HELP VAR <variable> displays a brief description and the current value of the variable.

Getting help/assistance

Nortel Network's Global Software Services group provides first line of support for the CMMOCK process. Any questions or concerns regarding CMMOCK activity should be directed to that group via your Nortel Network's Regional Customer Representative. If technical problems occur during the execution of the CMMOCK steps, contact the Global Software Services Hotline for your market.

14.3 CMMOCK

14.3.1 Procedure 1 - CMMOCK procedure steps

The CMMOCK process has been enhanced in CSP11/Base12 loads to avoid the potential to enter PRESWACT, or leave the DMS in an altered condition after performing the TABLE_TRANSFER step.

Certain steps or commands are valid only on certain software loads. Such dependencies are noted by from-side CSP level. For example, the term "CSP09-12" means valid when upgrading from CSP09 through CSP12; while "CSP11->" means valid for from-side CSP11 and higher.

CMMOCK steps are performed by the user and on a device designated as the ACT_terminal (Active side terminal) unless indicated otherwise in bold type at the start of a step. A designated Trace_device (Inactice side terminal) will be used to display output messages by the CMMOCK process. In this procedure "ACT" or "INACT" refers to the Active side and Inactive side CM processor, respectively, on which to perform an action.

IMPORTANT:

- *The Operating Company must obtain the CMMOCK TEST TAPE before starting the CMMOCK process. If the tape is older than 30 days, contact your regional customer representative.*

- *The BULLETINS and PBS Workaround files are critical files and must be downloaded to SFDEV before the CMMOCK can be performed. Print and review these files before running the CMMOCK.*

- *Ensure that SFDEV does not contain files FEATDATA, APF or SITEINFO before starting the CMMOCK. If these files exist, use the following command to erase/remove them from the SFDEV:*

    > ERASESF FEATDATA;ERASESF APF;ERASESF SITEINFO

1   Contact the control center (if required) and the site on the voice phone and connect to both dialups. Verify one dialup port is on IOC 0 (or IOM 0) and the other is on IOC 1 (or IOM 1).
Two login devices will be required: "ACT_terminal" (ACT) and "Trace_device" (INACT)

—continued—

Procedure 1
CMMOCK procedure steps (continued)

2 On the terminal device designated "ACT_terminal" login and, if applicable, set LOGINCONTROL:

    a. <break>

        `?LOGIN`   *{system response}*
        `Enter username and password`

        > <**username**> <**password**>

    or > <**username**>
        > <**password**>

    b. Obtain the IOC/IOM device and user information as follows:

        > **bcsupdate;device**
        > **quit**

    c. The site is responsible for providing *users* and *devices* with properties sufficient to perform the CMMOCK. Following are recommended settings for each user/device.

        • *User Priority* is *4*

        • *User Stack Size* is at least *10000*

        • *User Privilege Class* is *ALL*

        • *ComClass* is *ALL*

        • *OpenForceout* is *N*. If not, note original status and enter:

          > **logincontrol** <**device**> **openforceout false**

        • *MaxIdleTime* is *Forever*. If not, note original status and enter:

          > **logincontrol** <**device**> **maxidletime forever**

    d. At the second terminal device designated as the "Trace_device" repeat substeps a, b and c (above).

    e. At the Trace_device make a note of the device name.

    Note: When necessary, the Trace_device will be used to login on the Inactive side load and make data changes. In order to login on the INACT side, you will need to know the Trace_device name.

    f. Since SWUPGRADE displays messages on the Trace_device, it is necessary to sleep the Active prompt on the Trace_device in order to more clearly observe the output messages. On the Trace_device enter the following command:

        > **sleep 240 mins**

—continued—

Procedure 1
CMMOCK procedure steps (continued)

3   Locate the non-datafilled CM load file (either tape or disk volume).

_**REMINDER**_*:* The non-datafilled CM load file is located on the CMMOCK TEST TAPE.

_**ATTENTION**_*: If office is SuperNode CM/SLM perform substeps a through e only. If office is SuperNode XA-Core perform substeps f through g only.*

For SuperNode CM/SLM:

a.   If loadmating from SLM disk, list the files on the disk volume with the non-datafilled CM load file.

_**IMPORTANT**_*: Ensure the non-datafilled CM load file is on the Inactive side CM/SLM.*

> **diskut**
> **lv**   *{lists all volumes on SLM 0 and SLM 1}*
> **lf S00D<volume>**   *{or S01D<volume>}*
Where <volume> is the SLM disk volume with the CM load file.

Make note of the name of the non-datafilled CM load file and volume for later use in environment variable LDMATE_IMAGE.

b.   If loadmating from SLM disk, set the boot pointer now:

> **sbf** <**volume**> <**filename_cm**> **cm** <**entry#**>
Where <volume> is the disk volume with the non-datafilled CM load file.
<filename_cm> is the non-datafilled CM load filename.
<entry#> is the next available entry in ITOC, or 9.

Examples:
   > sbf S01DUNIT1 LET014_CM cm 9
   > sbf S01DIMAGE LEC015_S1 cm 9

c.   If loadmating from SLM tape, place the tape cartridge with the non-datafilled CM load file into the Inactive side CM/SLM.

_**CAUTION**_*: Do not use the INSERT TAPE (IT) command during this step.*

—continued—

Procedure 1
CMMOCK procedure steps (continued)

d.   Ensure there are no open files on the Inactive CM side disk volume.

CAUTION: Open files will cause the LDMATE DIRECT command to fail.

Use the following commands to identify any open files:

> **diskut**
> **lv**
> **quit**

e.   Close (or ROTATE) any open files on the Inactive CM side disk volume before continuing. Do not attempt to close active DIRP/billing (AMA) files. Instead, from the DIRP MAP level ROTATE any active billing subsystems such as AMA, SMDR, OCC, and CDR.

To locate and rotate active billing files:

> **mapci;mtc;iod;dirp**
> **rotate <file_name>**
> **quit all**

Note: For assistance with closing active files contact your next level of support.

REMINDER: After loadmate is complete, restore any files that were closed on the Inactive CM side disk drive. Also, ensure all IOD alarms are cleared at the MAP level.

For SuperNode XA-Core:

f.   If loadmating from XA-Core disk, list the files on the disk volume with the non-datafilled CM load file.

> **diskut**
> **lv**   *{lists all volumes on F02L and F17L}*
> **lf F02L<volume>**   *{or F17L<volume>}*
Where <volume> is the volume with the non-datafilled CM load file.

Make note of the name of the non-datafilled CM load file and volume for later use in environment variable LDMATE_IMAGE

g.   If loadmating from XA-Core tape, place the tape cartridge with the non-datafilled CM load file into a tape drive device. Make note of the tape drive device (F02UTAPE or F17UTAPE) for use in environment variable LDMATE_IMAGE.

—**continued**—

Procedure 1
CMMOCK procedure steps (continued)

4   Enter the SWUPGRADE increment.

    a.   If the current Active load is <u>CSP11 or higher</u>, initialize the CMMOCK platform. Type the following on the ACT_terminal:

        > **swupgrade cmmock**

        or

    b.   If the current Active load is <u>CSP10 or lower</u>, initialize the CM platform. Type the following on the ACT_terminal:

        > **swupgrade cm**

    c.   Press <return> twice to display the current <u>office header message</u>. *Retain this header message for use in environment variable: INACT_LOGMSG (below).*

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5   Obtain a list of available <u>CI commands</u>. Type *HELP* to list all of the commands. For any command listed type *HELP <command>* to get a description of the command.

    <u>**IMPORTANT:**</u> To terminate or abort the CMMOCK at any time use the CANCEL command.

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6   Start the CMMOCK.

    > **start**
    The START command is only used to initially start the process. To continue after the process has paused, use GO, RESUME or CONTINUE.

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7   Set up <u>environment variables</u>

    Step SETUP_ENV_VARS prompts the user for values and sets the environment variables necessary to perform the SWUPGRADE. Enter the requested values on the ACT_terminal.

    <u>**IMPORTANT:**</u> Certain variables are valid only for certain software loads. Such dependencies are noted by from-side CSP level. For example, the term "CSP09-12" means valid when upgrading from CSP09 through CSP12; while "CSP11->" means valid for from-side CSP11 and higher.

    This step causes the upgrade process to pause until the user enters GO, RESUME or CONTINUE.

    Note: Values consisting of more than one word must not be enclosed in quotes. If they are the quotes will be considered as part of the word and the variable will either be set to an incorrect value or not set at all.

—continued—

Procedure 1
CMMOCK procedure steps (continued)

Default values are in square brackets. [Some variables have no default]

If a variable has a default value assigned, the default is the recommended value unless indicated otherwise. To accept a default value press <return> without entering a value. To enter different values, type the value and press <return>.

If an illegal command string is entered a Help screen will appear.

Variables can be changed at any time using the SET command. However, once a value is used, it will have no further effect.

Variable: **TRACE_DEVICE** [no default]

Holds the device name on which output messages are displayed. Changing the value of this variable causes output to be redirected to the new device.

Recommended setting is a device other than the terminal currently logged onto. The Trace_device should be close to your ACT terminal.

Value: <trace device name> - a string, such as MAP.

Note: When typing the Trace_device name, be certain it is entered correctly.

Manual check When prompted, enter the Trace_device name then on that device you should see the message: 'This device is selected for TRACing'

Variable (CSP06-07): **ACT_TERMINAL** [default is terminal you are on]

Holds the name of the device that will be used to enter all SWUPGRADE commands.

Recommended setting is the device you are logged onto.

Value: <active device name> - a string, such as MAP.

Variable: **PRINTER** [default is SINK (no printout)]

Holds the name of the printer on which output messages are recorded. The printer echoes all output sent to the trace device. Changing the value of this variable causes the recording to be directed to the new device.

Recommended setting is to add a printer name for this variable. Default is SINK which causes no printout.

Value: <printer name> or SINK

Where <printer name> is a device datafilled in table TERMDEV.

eg1: LP021 - Record from the trace device onto LP021.
eg2: SINK - Do NOT record.

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Procedure 1
CMMOCK procedure steps (continued)

Variable: **LOGS** [default logs are TRAP SWERR CM CMSM MS NET ENET for
CM/SLM or TRAP SWERR XAC MS NET ENET for XA-Core]

Holds the names of the logs to be considered by the CHECK_LOGS step.
More than one log can be specified by entering log names separated by a
blank.

Recommended settings is the default: logs TRAP SWERR CM CMSM
MS NET ENET (for CM/SLM) or logs TRAP SWERR XAC MS NET ENET
(for XA-Core).

Value: <log name list> - one or more log names.

eg1: CM - Checks for cm logs and displays a message if cm logs are
recorded.
eg2: TRAP SWERR – Checks for traps and swerrs on and displays a
message if traps or swerrs are recorded.

Note: Use quotes ONLY with the SET command, if the value consists of
more than one word.

Variable *(CM/SLM)*: **INACT_CM**

Holds the number of the Inactive CM to be upgraded with the new image.

Value: <cm number> - 0 or 1

Variable: **INACT_LOGMSG**

Holds the office header message (OFCLOG) that will be displayed on the
Inactive (mate) CM.

Manual check: When requested to enter the value for the office header
message, type the header message exactly as it was noted above (step
4c)—except update the new job order number, software level, and current
date.

Example:

```
*** H1234 Office_Name LEC00015 10/FEB/2001 ***
```

Value: <log msg> - a character string

Note: Use quotes ONLY with the SET command, if the value consists of
more than one word.

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Procedure 1
CMMOCK procedure steps (continued)

Variable: **LDMATE_IMAGE** [default is TAPE for CM/SLM (no default for XA-Core)]

Holds the device name and filename used by the LOAD_MATE step (CM/SLM) or the SPLIT_AND_LOADMATE step (XA-Core).

If loadmating from CM/SLM disk:

Note: Locate the disk volume with the non-datafilled CM load file and verify the boot pointer was set (refer to step 3 above).

IMPORTANT: Ensure the non-datafilled CM load file is on the Inactive side CM/SLM.

Value: <device> <filename_cm> <method>

Where <device> is the SLM disk volume, <filename_cm> is the non-datafilled CM load filename, and <method> is the method to loadmate. Options are either DIRECT or VIAMS (Direct is the preferred method).

Example:
S01DUNIT1 LET015_CM DIRECT - Loads CM load file LET015_CM from device S01DUNIT1 using the DIRECT method.

If loadmating from CM/SLM tape:

Value: <device>

Where <device> is TAPE.

Example: TAPE - Loads the CM load file from the Inactive SLM tape drive.

If loadmating from XA-Core disk:

Locate the disk volume with the non-datafilled CM load file (see step 3).

Value: <volume_name> <filename_cm>

Where <volume_name> is the XA-Core disk volume and <filename_cm> is the non-datafilled CM load filename.

Example:
F02LIMAGE LET015_CM - Loads CM load file LET015_CM from disk volume F02LIMAGE.

If loadmating from XA-Core tape:

Value: <device>

Where <device> is the tape drive device (F02UTAPE or F17UTAPE).

Example:
F17UTAPE - Loads the CM load file from tape drive F17UTAPE.

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Procedure 1
CMMOCK procedure steps (continued)

Variable: **PADNDEVS** [default is device name SFDEV]

Holds the name of the device(s) (up to 3) that will be searched for patches during the CM software upgrade. Step SET_PADNDEV temporarily datafills table PADNDEV with these devices for the benefit of APPLY_PATCHES.

Value: <device name list> - up to 3 device names.

Recommended settings is the default: device name = SFDEV.
However, for the CMMOCK no patches will be applied.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: **TABXFR_STOPIF** [default is stopif = 1]

Determines the threshold for the maximum number of failed tables allowed before halting TABXFR.

Recommended setting is the default: stopif = 1.

Value: <stopif> or UNLIMITED

Where <stopif> is an integer between 0 and 4,294,967,295.

 eg1: 1024 - TABXFR halts after 1024 table failures.
 eg2: UNLIMITED - TABXFR never stops.

Variable: **TABXFR_LIMIT** [default is limit = 25]

Determines the threshold for the maximum number of tuple failures allowed before halting TABXFR.

Recommended setting is the default: limit = 25

Value: <n> or UNLIMITED

Where <n> is an integer between 0 and 4,294,967,295 and UNLIMITED is equivalent to no limit.

 eg1: 3380 - TABXFR halts after 3380 tuple failures.
 eg2: UNLIMITED - Unlimited number of failures for one table is allowed.

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Procedure 1
CMMOCK procedure steps (continued)

Variable: **TABXFR_INITIAL_PRINT** [default is 30 SECS]

Determines the time interval for printing a single message containing the current table name.

Recommended settings is the default: 30 SECS.

Value: FOREVER or <0 to 255> {SECS, MINS, HRS}

eg1: 5 MINS - The message is printed after the first 5 minutes.
eg2: 30 SECS - The message is printed after the first 30 seconds.
eg3: FOREVER - The message is never printed.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: **TABXFR_INTERVAL_PRINT** [default is FOREVER]

Determines the time interval for printing regular table transfer status messages. This is particularly useful for large tables.

Recommended settings is: 30 SECS.

Value: FOREVER or <0 to 255> {SECS, MINS, HRS}

eg1: 5 MINS - The message is printed every 5 minutes.
eg2: 30 SECS - The message is printed every 30 seconds.
eg3: FOREVER - The message is never printed.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable: (CSP06-10) **SPMS_OPTION** [default is NONE]

Holds the date or number of days to generate the SPMS (Switch Performance Monitoring system) indices.

Recommended setting is the default: NONE.

The options are:

DATE <[YY]YY [M]M [D]D> - Display the SPMS indices for that date as well as the averages for the current and previous months.

DAYS <N> - Display the SPMS indices for the previous N days as well as the averages, where N is an integer between 0 and 30. If N is not specified it is defaulted to 1.

NONE - Do not generate the SPMS report.

eg1: DATE 1996 10 15 - Display indices for 15/10/96 and averages.
eg2: DATE 93 2 1 - Display indices for 01/02/93 and averages.

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Procedure 1
CMMOCK procedure steps (continued)

eg3: DAYS 1 - Display previous day's indices and averages.
eg4: DAYS 0 - Display the averages for the current and previous months.

Note: Use quotes ONLY with the SET command, if the value consists of more than one word.

Variable (STP offices only): **AUTODUMP** [default is YES]

Determines if AUTODUMP is enabled on the upgraded load.

Recommended setting for this variable is NO.

The options are:

YES – the user has indicated that AUTODUMP is enabled on the upgraded load.

NO – the user has indicated that AUTODUMP is not enabled on the upgraded load.

Note: An ACTIVE VOLUME must be datafilled in table IMAGEDEV to use AUTODUMP.

Variable: **DRTIME_REPORT** [default is NO]

Determines if the DRTIME report should be printed. Step DRTIME_REPORT will provide detailed statistics on the TABXFR process.

Recommended setting for this variable is the default: NO.

The options are:

YES - Print the report.

NO - Do not print the report.

Variable (CSP06-10): **DUMP_NEW_LOAD** [default is YES]

Determines if an image dump of the new load should be taken.

Recommended setting for this variable is NO.

The options are:

YES - CMMOCK will dump the new image.

NO - CMMOCK will not dump the new image.

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Procedure 1
CMMOCK procedure steps (continued)

Variable (CSP09): **DIRP_BILLING_HAS_BEEN_POLLED** [default is YES]

>   Reminds the user that DIRP BILLING should have been polled by the billing
>   center.

>   ***Recommended setting for this variable is NO.***

>   The options are:

>>   YES – the user has indicated that the required polling has been done.

>>   NO – the user has indicated that polling is either not desired or is not
>>   applicable during this upgrade.

Variable (CSP10): **AUTOMATED_DIRP_AND_BILLING** [default is YES]

>   Asks the user if they want the automated DIRP and billing steps.

>   ***Recommended setting for this variable is NO.***

>   The options are:

>>   YES – the user has indicated that automated DIRP billing is chosen.

>>   NO – the user has indicated that automated DIRP billing is not desired
>>   or is not applicable during this upgrade.

---

8   When all environment variables have been entered, a full list of all the
values is displayed. Check the values of all variables, and if necessary use
the SET command to make corrections.

>   *Example:*
>   > set logs 'trap swerr'
>   > set trace_device map

>   *Note:* Use quotes ONLY with the SET command, if the value consists of
>   more than one word.

>   Environment variables can be displayed at any time by typing :

>   (CSP06-08) > **swupgrade;disp vars**
>   (CSP09)   > **swupgrade;disp var all**
>   **(**CSP10->)   > **swupgrade;disp var <variable_name>**

—continued—

Procedure 1
CMMOCK procedure steps (continued)

9   After the environment variables have been entered and checked, continue
as follows:

<u>Observe</u> **the Trace_device to monitor the automatic process.**

<u>When prompted</u> **enter any additional commands on the ACT_terminal.**

<u>Manual Input</u>: **On the Trace_device watch for the message:**
"SWUPGRADE process has paused."
This means your input is required. To resume after a PAUSE, type GO
on the ACT_terminal.

To continue the process type GO on the ACT_terminal:

> **go**

Notes:
The STATUS command may be used at any time to display the
SWUPGRADE status information:
> **swupgrade;status**

A list of STEPS (needed and completed) can be displayed at any time by
typing:
> **swupgrade;disp steps**

If needed, you can QUIT out of the SWUPGRADE increment:
> **quit**

To re-enter the SWUPGRADE increment and continue, type:
> **swupgrade;go**

The remaining steps are automatically executed by the SWUPGRADE
process. Manual intervention is needed only when requested by
display on the Trace_device terminal.

Step: SETUP_DIRP_AND_BILLING *(CSP07-08)*

SETUP_DIRP_AND_BILLING performs the preparation for the other three
DIRP billing steps: PRESWACT_DIRP_AND_BILLING,
SEND_DIRP_INFO_TO_INACTIVE, and RECOVER_DIRP_AND_BILLING.

This step asks a number of questions based on the current DIRP data
configuration to set up site-specific variables to prepare DIRP and billing
subsystems for the CM switch of activity.

This step causes the upgrade process to pause until the user enters GO,
RESUME or CONTINUE.

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Procedure 1
CMMOCK procedure steps (continued)

Step: NOTIFY_USERS

> NOTIFY_USERS sends a message to all users logged in to the switch, notifying them that an ONP has started and to advise them not to use SERVORD and other interfering commands. A list of all logged-in users is then printed to the trace device.

Step: SET_LOGIN_BANNER *(CSP08->)*

> SET_LOGIN_BANNER replaces the existing login banner file with SWUPGRADE login banner. This banner will be displayed upon successful login on any terminal.

Step: DOWNLOAD_FILES

> DOWNLOAD_FILES reminds the user to download the optional application and BULLETINS files before continuing. This step causes the upgrade process to pause until the user enters GO. Print a hard copy of the BULLETINS file if desired to review the contents of the file.

Step: READ_BULLETINS

> READ_BULLETINS executes the BULLETINS file downloaded by step DOWNLOAD_FILES. This causes the CI commands contained within the file to be executed.

Step: VERIFY_DEVICES

> VERIFY_DEVICES verifies all devices used during the software upgrade process are setup correctly. Currently, the checks are if ENHANCED_PASSWORD_SECURITY is on, then LOGINCONTROL settings MAX_IDLE_TIME and OPEN_CONDITION_LOGOUT, should be set to FOREVER, and N respectively.

Step: PRINT_PARMS_AND_SAVE

> PRINT_PARMS_AND_SAVE prints the values of the office PARMs NODEREXCONTROL, LCDREX_CONTROL, GUARANTEED_TERMINAL_CPU_SHARE and DUMP_RESTORE_IN_PROGRESS to the trace device and saves the values for use by step RESTORE_PARMS.

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Procedure 1
CMMOCK procedure steps (continued)

Step: CHECK_LOGS_1

The "CHECK_LOGS" steps will display a count of logs on the ACTive side,
INACTive side, or both. The type of logs displayed is determined by the
input to variable**: LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also
display full trap information using the commands shown below.

Note: The Trace_device terminal response for step CHECK_LOGS_1 "new
logs on the ACTIVE CM since the start of the process" is only true for offices
upgrading from CSP10 and higher loads. For offices upgrading from CSP09
and lower loads this response is not true. For those offices the log count
displayed is actually for all of the logs in the Logutil buffer. Offices
upgrading from CSP09 and lower will need to determine which logs have
occurred since the start of the CMMOCK process, and only display the
contents of those logs and traps.

Additional information for displaying logs

For CSP10 and higher use the DISPLAY LOG command to display the
content of logs on either side. Otherwise, use Logutil commands.

ACT
> **display log <log name> <n *or* ALL> [Act or Inact]***{still in SWUPGRADE}*
*Displays a number (**n**) of the most recent records in the specified log,
either for the Active or Inactive side. (Note: the default is: INACT)*

Example:
> display log CM 5 inact
This shows the five most recent CM logs in the mate side log buffer.

All offices can use Logutil commands to show the contents of logs, as
follows.

To display the content of logs on the Active side:

ACT
> **quit all**
> **logutil**
> **open <log name> [<log number>]**
repeat for each Active-side log
> **quit**   *{to leave logutil increment}*

Example:
> logutil
> open CM 119

—continued—

Procedure 1
CMMOCK procedure steps (continued)

To display the full trap information for each trap listed for the Active side:

> **ACT**
> > **quit all**
> > **logutil**
> > **open trap**
> > **trapinfo <trap_number>**
> > **back all**
> *repeat for each trap*
> > **quit**   *{to leave logutil increment}*

To display the content of logs on the Inactive side:

To login to the mate side processor, on the ACT_terminal, type:

> **ACT**
> > **mateio**
> > **matelog <Trace_device>**

On the Trace_device type the username and password:

> **INACT**
> Enter username and password   *{mate-side response}*
> Mate>

Usernames and passwords for the Inactive non-datafilled CM load are:
admin admin
operator operator

Mate> **logutil**
Mate> **open <log name> [<log number>]**
repeat for each mate-side log
Mate> **quit**   *{to leave logutil increment}*

Example:
Mate> logutil
Mate> open MS 314

Also display the full trap information for each trap listed for the Inactive side:

> **INACT**
> Mate> **logutil**
> Mate> **open trap**
> Mate> **trapinfo <trap_number>**
> Mate**> back all**
> *repeat for each trap*
> Mate> **quit**   *{to leave logutil increment}*

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Procedure 1
CMMOCK procedure steps (continued)

When done listing logs on the mate side, logout of the mate side:

> **INACT**
> Mate**> logout**

IMPORTANT: Do not logout of the Active side on either the ACT or Trace_device terminals. (On the Trace_device the Active side prompt should still be sleeping.)

To re-enter SWUPGRADE and continue, type:

> **ACT**
> > **swupgrade;go**

Step: STOP_JOURNAL_FILE

STOP_JOURNAL_FILE queries the journal file status and then closes and stops the journal file. This is equivalent to executing the commands: QUERY JF ALL; CLOSE JF ACTIVE; JF STOP

Step: PRINT_MS_LOADS *(CSP06-10)*

This step prints the load names of each MS.

Step: ALIGN_CM_AND_SLM *(CM/SLM)*

ALIGN_CM_AND_SLM checks that the CM specified in environment variable INACT_CM is in fact Inactive. If not, the user is prompted to SWACT the CM or change the value of the variable.

Step: DISABLE_PRSM_AUDIT_ACT *(CSP10->)*

This step disables the PRSM audit for the CMMOCK.

Step: CMIC_LINKHITS_CHECK *(CSP08 ->)*

CMIC_LINKHITS_CHECK checks the integrity of the CMIC links on the Active side.

10   *IMPORTANT*: The following step will pause before dropping sync on the CM/SLM. When ready to drop sync, the user must <u>JAM the Inactive CM (Inactive-side RTIF)</u> before the step can continue.

Step: DROP_SYNC *(CM/SLM)*

DROP_SYNC will instruct the user to obtain permission to drop sync on the CM, then pause to wait for the user to enter GO to continue. When the user enters GO, the process will then drop sync on the CM.

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Procedure 1
CMMOCK procedure steps (continued)

Step: LOAD_MATE *(CM/SLM)*

LOAD_MATE loads the Inactive CM with the new software image from
either tape or disk. This step reads LDMATE_IMAGE variable to determine
the device from which the new software image is to be loaded.

IMPORTANT: The following step will pause before splitting the XA-Core
shared memory into an ACTive and INACTive unit. Once ready to enter
Split mode, the user must enter GO on the ACT_terminal to continue.

Step: SPLIT_AND_LOADMATE *(XA-Core)*

SPLIT_AND_LOADMATE will instruct the user to obtain permission to split
the XA-Core shared memory, then pause to wait for the user to enter GO to
continue. When the user enters GO, the process performs the split and
loads the INACTive unit with the new XA-Core non-datafilled load file from
either tape or disk. This step reads LDMATE_IMAGE variable to determine
the device from which the new software image is to be loaded.

Step: MATELINK_RTS

MATELINK_RTS verifies that the matelink is in-service and if not, attempts
to return the link to service.

Step: UPDATE_STEPS_AND_VARS

UPDATE_STEPS_AND_VARS is executed after the Inactive CM is
loadmated with the new software. It ensures that the CMMOCK step list is
built on the Inactive CM, that step information is updated on the Active CM
and that environment variable values are transferred to the Inactive CM.
Essentially, this step ensures that the Active and Inactive CM CMMOCK
data is in sync.

Step: CHECK_NEW_LOAD

CHECK_NEW_LOAD attempts to verify that the load on the Inactive CM is
a fresh, non-datafilled load. This is done by checking that table TERMDEV
only has a single tuple.

Step: SET_DATE_AND_LOGMSG

SET_DATE_AND_LOGMSG transfers the Active side date and time to the
Inactive and sets the log message to the value of variable
INACT_LOGMSG.

—continued—

Procedure 1
CMMOCK procedure steps (continued)

Step: CHECK_LOGS_2

Displays a count of logs in the Logutil buffer since the start of the process on the ACTive side, INACTive side, or both. The type of logs displayed is determined by the input to variable**: LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands. (See "Additional information for displaying logs" in step CHECK_LOGS_1.)

Step: CLEAR_TRAPINFO

CLEAR_TRAPINFO clears all traps on the Inactive CM before the process proceeds. This makes it easier to differentiate between old and new traps that may be caused by subsequent steps.

Step: TRANSFER_DEVICES_INFO

TRANSFER_DEVICES_INFO copies the information saved in VERIFY_DEVICES from the Active cpu to the Inactive cpu.

Step: TRANSFER_PARM_VALUES

TRANSFER_PARM_VALUES copies the parameters saved in step PRINT_PARMS_AND_SAVE from the Active to the Inactive CM.

Step: RESET_BCSUPDATE_STEPS (CSP06-08)

RESET_BCSUPDATE_STEPS resets all BCSUPDATE steps to needed.

Step: MS_CHECK *(CSP06-10)*

Note: This step may fail during the CMMOCK. Type OVERRIDE MS_CHECK to continue.

Step: DISABLE_AUTOIMAGE

DISABLE_AUTOIMAGE disables the auto image dump process which could potentially interfere with the ONP process.

Step: SET_OFFICE_TUPLES

SET_OFFICE_TUPLES retains the current state of office parameters NODEREXCONTROL, LCDREX_CONTROL and GUARANTEED_TERMINAL_CPU_SHARE and then sets both NODEREXCONTROL and LCDREX_CONTROL to OFF and GUARANTEED_TERMINAL_CPU_SHARE to its maximum value.

—continued—

Procedure 1
CMMOCK procedure steps (continued)

Step: SET_PADNDEV

SET_PADNDEV saves the current tuples in the PADNDEV table. It then deletes all tuples from the table. Lastly, it adds the tuples contained in the PADNDEVS environment variable.

Step: SEND_PATCHES

SEND_PATCHES sends all applicable patches required to patch the Inactive load before the software upgrade process can proceed.

Note: Normally no patches will be sent to the Inactive side during this step.

Step: APPLY_PATCHES

APPLY_PATCHES messages the Inactive side to start the PRSM process which applies the patches that were sent to the Inactive side by the SEND_PATCHES step.

Note: Normally no patches will be applied to the Inactive side during this step.

Step: CHECK_LOGS_3

Displays a count of logs in the Logutil buffer since the start of the process on the Active side, Inactive side, or both. The type of logs displayed is determined by the input to variable**: LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands. (See "Additional information for displaying logs" in step CHECK_LOGS_1).

Step: RESTORE_PADNDEV

RESTORE_PADNDEV restores table PADNDEV to contain the exact tuples it had before step SET_PADNDEV was executed.

Step: TABLE_TRANSFER

TABLE_TRANSFER executes the TABXFR process to transfer all data from the old to the new software load.

If TABXFR errors are encountered perform step 11; otherwise, skip the following step and continue with step TABXFR_REPORT.

Note: Troubleshoot all translation errors before to continuing. If needed contact your translations engineer. Also refer to the "TABXFR failure flowchart" at the end of this appendix.

—continued—

Procedure 1
CMMOCK procedure steps (continued)

11   If any tuple fails to restore on the INACT side, TABXFR will stop (depending on STOPIF and LIMIT) and display the headtable/subtable position in error.

For any "failed" table, compare the ACT side (old) and INACT side (new) tuple(s) in error to identify and correct the problem. Some data differences should be expected as ordered, others might be in error and need to be corrected (if needed, contact the Translations Engineer or your next level of support).

Note: "****Table is recursive" means a tuple in this table is referenced by another table. The referenced table must be transferred before the original table can be successfully datafilled. Normally no action is required to transfer a recursive-dependent table, since TABXFR will loop back as needed to datafill all recursive tables.

a.   Whenever it is necessary to access the INACT (mate) side to correct an error, first *verify a flashing A1* on the <u>Inactive</u> processor.

b.   Before logging into the INACT side and if not already done, on the Trace_device sleep the Active prompt by entering the following command:

> **sleep 240 mins**

REMINDER: All terminal commands and responses from the INACT side must have the cursor preceded by 'Mate>'.
(Otherwise, the '>' means it is the Active side.)

Examples:

>   Active side processor (from-side software load)

Mate>   Inactive side processor (to-side software load)

c.   To login to the INACT side processor, on the ACT_terminal type:

> **mateio**
> **matelog <Trace_device>**

On the Trace_device type the username and password:

Enter username and password   *{mate-side response}*

Mate> **admin admin**

Note: Usernames and passwords for the Inactive non-datafilled CM load are:

admin admin
  or
operator operator

—continued—

Procedure 1
CMMOCK procedure steps (continued)

    d.   Once errors have been corrected, logout of the INACT side processor and continue:

        Mate> **logout**

IMPORTANT: Do not logout of the Active side processor on either the ACT_terminal or Trace_device. (On the Trace_device the Active side prompt should still be sleeping.)

To continue the process type GO on the ACT_terminal:

    > **swupgrade; go**   *{enter on ACT_terminal}*

Step: TABXFR_REPORT *(CSP09->)*

TABXFR_REPORT displays a summary report of all table failures to the trace device once TABXFR has completed.

Step: CHECK_LOGS_4

Displays a count of logs in the Logutil buffer since the start of the process on the ACTive side, INACTive side, or both. The type of logs displayed is determined by the input to variable**: LOGS**.

IMPORTANT: Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands. (See "Additional information for displaying logs" in step CHECK_LOGS_1).

12   Complete the CMMOCK process.

Perform this step when step TABLE_TRANSFER is completed and all TABXFR errors have been resolved.

<div style="border:1px solid black; padding:10px;">

CAUTION
Do not allow step START_PRESWACT to run.
The CMMOCK process must be completed depending on what level the Active software load is and/or the SWUPGRADE platform used (CMMOCK or CM).

</div>

—continued—

Procedure 1
CMMOCK procedure steps (continued)

a.   Determine the SWUPGRADE platform used to perform the CMMOCK:

> **swupgrade;status**

b.   If the SWUPGRADE CMMOCK platform was used, type the following on the ACT_terminal:

> **swupgrade;go**

 or

c.   If the SWUPGRADE CM platform was used, type the following on the ACT_terminal:

> **swupgrade;cancel**
Two confirmations will be required to continue.

CAUTION: Watch the output messages on the TRACE DEVICE!
The "Trace Device" will output messages informing the operator what steps are being rolled back. Upon getting the messages:

> *The SWUPGRADE process has paused. Enter GO or*
> *Type GO to resume CANCEL*

The operator must type "GO" and press return on the ACT terminal until getting the message:

> *SWUPGRADE CANCEL is completed.*
> *You may now QUIT out of the SWUPGRADE increment.*

CAUTION: Manual intervention is required.
When the below step is generated on the Trace Device the operator must release the JAM on the INACT RTIF before executing the step. This step will be executed once the operator enters "GO" on the ACT terminal.

> *Executing the step SYNC_SWITCH.*
> *SWUPRADE has now reached the SYNC_SWITCH step*
> *Are you ready to SYNC the SWITCH?*
> *Execution is not complete.*

—continued—

Procedure 1
CMMOCK procedure steps (continued)

The remaining steps are automatically executed by the SWUPGRADE process. Manual intervention is needed only when requested by display messages on the Trace_device terminal.

Step: DRTIME_PRINT

Step: UNSPLIT_SWITCH *(XA-Core)*

Step: ENABLE_AUTOIMAGE

Step: SYNC_SWITCH *(CM/SLM)*

Step: RESTORE_PARMS

Step: RESET_DEVICES

Step: RESET_LOGIN_BANNER

Step: RESUME_REX_TEST

Step: START_JOURNAL_FILE

Step: PRINT_SWUPGRADE_REPORT

Step: STOP_RECORD

Step: UPGRADE_COMPLETE

The user must enter GO to continue and reset the SWUPGRADE process. When complete, this step reminds the user to quit the SWUPGRADE increment.

---

13 Quit the SWUPGRADE increment.

IMPORTANT: Do not quit until the following message is displayed:

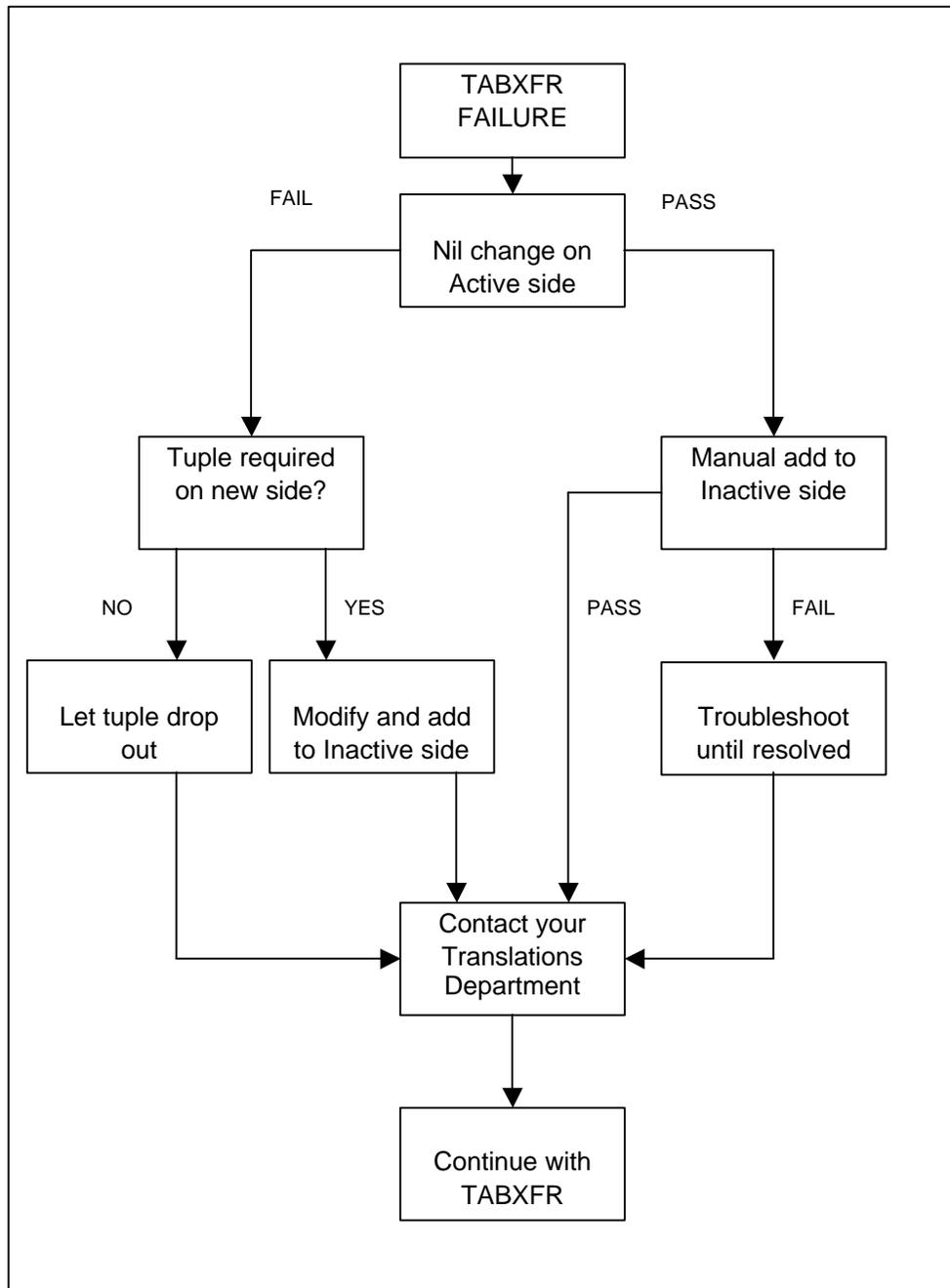…*Process complete.You may now QUIT out of the SWUPGRADE increment. Finished step UPGRADE_COMPLETE.*

> **quit**

This completes the CMMOCK procedure.

TABXFR failures flowchart for CMMOCK

```
                        ┌──────────────┐
                        │   TABXFR     │
                        │   FAILURE    │
                        └──────┬───────┘
                               │
        FAIL            ┌───────────────┐         PASS
     ┌──────────────────│ Nil change on │──────────────────┐
     │                  │  Active side  │                  │
     │                  └───────────────┘                  │
     │                                                     │
     │                                                     │
     ▼                                                     ▼
┌──────────────┐                              ┌──────────────────┐
│Tuple required│                              │  Manual add to   │
│ on new side? │                              │  Inactive side   │
└──────────────┘                              └──────────────────┘
   NO      YES                              PASS          FAIL
    │       │                                 │            │
    ▼       ▼                                 │            ▼
┌────────┐ ┌────────────┐                     │     ┌──────────────┐
│Let tuple│ │Modify and  │                    │     │ Troubleshoot │
│drop out │ │add to      │                    │     │until resolved│
│         │ │Inactive    │                    │     │              │
└────────┘ │side        │                     │     └──────────────┘
    │      └────────────┘                     │            │
    │          │                              │            │
    │          ▼        ┌──────────────┐      │            │
    └─────────────────▶ │ Contact your │ ◀────┘            │
                        │ Translations │ ◀─────────────────┘
                        │  Department  │
                        └──────┬───────┘
                               │
                               ▼
                        ┌──────────────┐
                        │ Continue with│
                        │   TABXFR     │
                        └──────────────┘
```

15 Appendix F: Software Delivery Data Services Site Preparation Guide

15.1 Introduction

15.1.1 General

The process for making changes to certain office data during an ONP is known as Software Delivery Data Services. This process, which requires a like-to-like ONP, is not considered to be a software "upgrade" but rather a "service." Data service activity will not take place during a normal software upgrade. In order for Nortel Networks to properly schedule a data services job, the operating company must provide advance notice of the requirements to complete the Data Services ONP.

Software Delivery Data Services include the following activities:

- LINEATTR DELETIONS*
- PERIPHERAL RENAMING
- PERIPHERAL RENUMBERING
- CHANGING OR DELETING REMOTE SITE NAMES

  *Data Service ONP no longer required from NA011 or higher

15.1.2 Using this appendix

The Data Services Site Preparation Guide outlines the specific activities required to prepare the office for a Data Services ONP. Although many of the site preparation activities for a Data Services ONP are the same as for a normal ONP, some important differences exist.

This appendix is organized to identify which site preparation activities in the ONP MOP are applicable and which are not. Also, this appendix provides some additional steps which are not included in the ONP MOP. All procedures must be performed in the sequence specified in this appendix.

15.1.3 Getting Help/Assistance

Nortel Network's Global Software Services group provides first line of support for the Data Services ONP. Any questions or concerns regarding data services activity should be directed to that group via your Nortel Networks regional customer representative. If technical problems occur during the execution of the site preparation activities, contact the Global Software Services Hotline for your market.

15.2 Data Services Site Preparation Guide

The procedures in this appendix are required only when the office is scheduled for a like-to-like job (for example: LEC00015 to LEC00015) for the purpose of completing a Software Delivery Data Services ONP. The *Site Ready Requirements* should be completed at least 10 calendar days before the scheduled ONP, and the *Data Freeze Procedure* must be performed immediately after the office test image has been sent to Nortel Networks.

15.2.1 Site Ready Requirements

The site preparation activities for the Data Services ONP are the same as for a normal ONP except for the following:

- No requirement to upgrade peripheral modules using the PM load tape.

- No requirement to upgrade the message switch (MS).

The site preparation activities from the ONP MOP that must be completed by the operating company before starting the Data Services ONP are listed below. These include the "Site preparation procedures," the "TABAUDIT procedure," and the "Site responsibilities the day of the software delivery." All procedures must be completed in the order in which they appear. Refer to the appropriate ONP MOP sections, and complete the following procedures:

Site preparation procedures

Procedure 3	Check disk space & take image
Procedure 4	Route system logs
Procedure 5	Processor tests SuperNode
Procedure 6	Clean up SFDEV
Procedure 7	Verify table OCGRP in TOPS offices
Procedure 8	Table ACDGRP
Procedure 9	Fill in Test Call Scripts
Procedure 10	Site Ready DMS-resident maintenance tool

TABAUDIT procedure

Procedure 1	Using AUTOTABAUDIT to run TABAUDIT
Procedure 2	Prepare test image

—continued—

Site responsibilities the day of the software delivery

Procedure 1   Day zero checklist
Procedure 2   Run DATADUMP
Procedure 3   FX voice and data
Procedure 4   Network management control
Procedure 5   Preserving logs over ONP

15.2.2 Data Freeze Procedure

IMPORTANT: Perform this procedure after completing both TABAUDIT
procedures 1 and 2 *and* immediately after a successful office "test image" has
been taken and sent to Nortel Networks.

CAUTION

Failure to perform the Data Freeze Procedure may jeopardize the Data
Services ONP.

Procedure 1
Stop activities

1   **Site/ACT** Advise all personnel that all activities (changes, additions, and
        deletions) on the following tables must stop until after the Data Services
        ONP is completed:

        If performing LINEATTR deletions:

                LINEATTR

        If renaming or renumbering peripherals:

                LTCINV   PATNSET

                LTCPSINV   DCHINV

                RCCINV   ISGDEF

                TRKGRP   LCMINV

                TRKSGRP   RSCINV

                TRKMEM

—continued—

Procedure 1
Stop activities (continued)

If changing or deleting remotes:

```
ALTSCHED

CFX

FMRESINV

IBNLINES

IBNSC

LCMDRINV

LCMINV

LENFEAT

LENLINES

LNINV

LNSMTCE

MTAVERT

OHBTINV

OPMINV

RESFEAT

RMMINV

SITE

SLELIST
```

2   **Site** Verify that no hardware changes or retrofits are in progress that could affect the Data Services ONP.

DMS–100 Family

Software Delivery

One Night Process Software Delivery
Procedures

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