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DEFINITY®
Manager IV
Upgrade Manual

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1. ABOUT THIS MANUAL

This manual describes the planning and execution needed to upgrade the Centralized System Management (CSM) Version 4 software to DEFINITY® Manager IV. In order to perform an upgrade with little or no negative impact on the ongoing switch administration, this manual provides step-by-step upgrade procedures.

WARNING!: Customers currently using the CSM V4 Cost Management (CM) application will lose this functionality upon upgrading to Manager IV. If they want to retain this type of data see the following section **before** reading any further in this document.

CALL ACCOUNTING UPGRADE

Cost Management is not supported by Manager IV. If a customer wants to have the Cost Management functionality they must upgrade to a Call Accounting package, which runs on a 6386 machine, and migrate the CSM V4 CM data to this new processor. At this point, you should leave this manual aside and refer to the specific Call Accounting documentation for more information.

WARNING!: If you continue with the CSM V4 to Manager IV upgrade all CM data will be overwritten and you will be unable to upgrade using the programs provided to do so. The customer will be forced to enter the needed CM data *manually* into the Call Accounting package.

INTENDED USERS

This manual should be used by:

- Account Team Members—to plan and implement a successful upgrade and to provide customers with **instruction** concerning their responsibilities in planning and implementing a successful upgrade.

  This manual contains proprietary information and should not be left with an AT&T customer.
- Service Technicians—to execute a successful upgrade.

RELATED DOCUMENTATION

In order to perform all the steps required for an upgrade, the following Manager IV documentation must be at the upgrade site:

- *DEFINITY Manager IV Planning and Implementation*, order number 585-220-610
- *DEFINITY Manager IV Installation, Initialization and Maintenance* , order number 585-220-100
- *DEFINITY Manager IV System Administration*, order number 585-220-700
- *DEFINITY Manager IV Getting Started*, order number 585-220-706

SECTION SUMMARY

This manual contains five sections and three appendices:

Section 1 **Introduction to Upgrades**	Introduces the reader to the specific types of upgrades supported by this document, discusses what happens during an upgrade, explains the overall stages of an upgrade and the effect of an upgrade on the database, and helps the reader in determining the correct upgrade procedure. Section 2 should be read by all persons involved in the upgrade process. It is written however, to prove most beneficial to the customer.
Section 2 **The Planning Stage**	Discusses the most important stage of any upgrade: the planning stage. This section is the first step for any type of upgrade. The information discussed in this Section must be understood by the Account Team in order to ensure a smooth upgrade.
Section 3 **Upgrade Preparations**	Discusses the activities which must be completed before the upgrade can successfully be initiated. The activities are performed by the customer and are overseen by the Account Team and Services.
Section 4 **Upgrade Procedures**	Lists the specific procedures needed to perform a CSM V4 to Manager IV upgrade. It also explains how to perform a switch upgrade along with the software upgrade.
Section 5 **Upgrade Sanity Checks**	Provides post-upgrade sanity checks to ensure that the upgrade was successful.
Appendices	Provide forms to be completed for the upgrade, 6386 information, and 3B2-600 peripheral hookup information.

PROCEDURE CONVENTIONS

The conventions explained below are used in the procedures throughout this manual. Each step of this process is detailed in procedures and text provided in this manual. The procedures have the following format:

- **Title:** The title of each procedure at the top of the first page of the procedure.
- **Prerequisite:** If there are procedures or activities that must be completed prior to running a procedure, they are listed under this heading.
- **Purpose:** Each procedure includes a purpose. The purpose describes what the procedure will do.
- **CAUTIONS:** If necessary, cautions will be listed in a procedure. Cautions describe potentially hazardous conditions associated with performing the procedure.
- **NOTE(S):** Outlines additional information that you should be aware of before performing the procedure. Note(s) may also appear within the procedure steps.
- **Procedure Steps:** This includes detailed steps for each procedure.

Entering Commands/Field Information

Enter: precedes commands that you must type. **Bold** and *italic* print is used in the following way:

bold The bold print should be entered exactly as it appears.

italic Italics are used to indicate a site or application dependent variable that must be supplied by the person issuing the command. Do not enter the italic as it appears; instead, supply the correct information. Valid entries are listed below each command with an explanation; the entries themselves are in bold.

For example, in the command below, *SITEID* is a place holder for a valid entry, where **cat** and **.disk** must be entered exactly as they appear.

Enter: **cat** *SITEID***.disk**

Unless otherwise noted, each line is a complete command. This means that at the end of each command line you must press **RETURN** to execute it.

System Responses

System responses are provided for your information. In many cases, the responses are samples of Manager IV transaction screens.

Manager IV Screens and Fields: The Manager IV transaction screens will be displayed and enclosed in a box. Below the screen, each field is listed on the left of the page with a field explanation listed on the right.

Messages: Messages informing you about the beginning or end of a process are preceded by System Response: and are in double quotation marks. Italics are used as a place holder for variable information. For example, in the message below, *date* would list an actual date.

"Initialization is complete *date*"

1. INTRODUCTION TO UPGRADES

The CSM V4 to DEFINITY Manager IV software upgrade involves transferring the current CSM database to a Manager IV environment.

Supported Applications

The number of applications that are supported has been reduced from CSM V4 to Manager IV. The applications supported by Manager IV include the Facilities Management (FM) and Terminal Change Management (TCM) applications of Manager IV. Cost Management (CM) and Traffic Management (TM) are now supported by other products. For more information see the installation manuals for these products.

NOTE: A detailed list of the files for each of these unsupported applications is given in Section 4 of this document.

UNDERSTANDING AN UPGRADE

Although the time needed for an upgrade spans a three-day period, the mechanics of an upgrade are straightforward. When the planning is complete, and the upgrade begins, the flow of events are basically as follows:

1. A few CSM reports are run on the current system to be used after the upgrade during sanity checks.
2. The UNIX® and CORE files from the current CSM V4 system are backed up.
3. The CSM V4 data is loaded onto cartridge tape.
4. UNIX 3.2.1 is loaded.
5. Manager IV is installed.
6. The CSM V4 data is loaded into Manager IV.
7. Sanity checks are performed.
8. The UNIX and CORE files from the new Manager IV system are backed up.
9. Additional switches and/or upgraded switches are initialized on the processor.
10. The new Manager IV system is turned over to the customer (after the upgrade).

UPGRADE STAGES

An upgrade of any type involves extensive planning. Below is a general outline of the stages. A brief explanation of each stage is in the following text.

- The Planning Stage—about 20 weeks prior to the upgrade.
- Upgrade Preparations—prior to the upgrade.
- Upgrade Procedures—during the upgrade.

The Planning Stage

The planning stage of an upgrade involves configuration planning, a DOSS configuration run, hardware/software ordering, scheduling the upgrade, and if necessary, TRACS order placement via DOSS. The Planning Stage responsibilities lie mostly on the Account Team and the customer. It is the most important stage of all to ensure a smooth upgrade. For a detailed explanation of the Planning Stage, see Section 2 of this manual.

Upgrade Preparations

Preparations must be performed no later than four days prior to the upgrade.

Initial Preparations

Initial preparations include cleaning up the pending queues, removing unnecessary UNIX flat files (for example TRACS files), and running reports to be used for sanity checking. The customer is primarily responsible for carrying out the remainder of the preparations.

Final Preparation

Final preparation involves confirmation that the existing database is free of errors. About two weeks prior to the scheduled upgrade, the Project Manager/SIM coordinates a run of the **rmaudit** database audit with the NCSC. The audit must be done to ensure the integrity of your current database. If problems with the database are found, they must be resolved prior to the upgrade.

Upgrade Procedures

The upgrade steps vary from site-to-site dependent upon the customer's current configuration. Section 4 contains all the procedures necessary to perform an upgrade.

An AT&T Service Technician will be on-site as required by remote support.

2. THE PLANNING STAGE

Proper planning will ensure a smooth upgrade and ongoing switch administration. Planning must occur at least 20 weeks prior to a scheduled date for the actual upgrade to allow time to order and install switches, if any.

The steps necessary to plan and implement a Manager IV upgrade are similar but vary slightly from the steps outlined in *Manager IV Planning and Implementation* for new Manager IV systems. To plan and implement an upgrade, follow the procedures in that publication while paying particular attention to the differences for upgrades discussed in this section.

The overall steps involved in the planning stage are:

1. The Account Team must determine the upgrade parameters.
2. The Account Team must order software and any additional switches wanted by the particular customer.
3. The Account Team must schedule the upgrade.

Each of the above steps and the tools needed to perform these steps are discussed in detail in the following sections.

SCHEDULE THE UPGRADE

Working with the RTMC, the Account Team must schedule an upgrade within specified time constraints. The planning and implementation guidelines for a new Manager IV installation can be found in *Manager IV Planning and Implementation* and should be used when developing an implementation timeline and establishing a date for an upgrade. Dates must be negotiated with the NCSC. When planning an upgrade, the following changes are made to the standard process:

1. **NCSC/MGR IV Initialization Activity Request Form.** Indicate on the bottom of this form that this is an "Upgrade to Mgr IV." The entire form must be completed except for the switch port number and security code (if they will remain the same).
2. Initialization activities present in *Manager IV Planning and Implementation* are replaced by the upgrade activities identified in Section 4 of this manual.
3. **TRACS Tapes.** A blowback and creation of a TRACS tape is required only in the following cases:

   — Any switch being updated concurrently with the upgrade.
   — A major addition to an existing switch is planned.
   — A new switch is being added to Manager IV.
   — A re-initialization of a switch is necessary (or requested by the customer) due to out-of-synch conditions.

   The switch translation must be scheduled for completion on or before the upgrade.

4. **Data Collection Forms.** These forms identified in Section 4 of *Manager IV Planning and Implementation* are not required unless the switch is also being upgraded and the numbering plan is changing.

DETERMINE UPGRADE PARAMETERS

The end goal of the Account Team is provide the customer with any additional switches that they may request and the support to upgrade their current CSM system to Manager IV. The customer is provided with the opportunity to increase the size of the current Manager IV system at the time of the upgrade. If the customer chooses to increase capacity, the new configuration must reflect that growth.

There are two sets of paperwork which must be completed to determine a customer's upgrade requirements. The first is a set of Manager IV Upgrade Input Parameter Worksheets (UIPW) similar to the set of UIPWs used for the sale and configuration of the existing CSM system. The second is a special Upgrade Information Form (UIF) which lists all the information needed during the actual upgrade steps.

Manager IV Upgrade Input Parameter Worksheets

Customer upgrade requirements must be established by completing a new set of Manager IV Upgrade Input Parameter Worksheets (UIPW) which can be found in Appendix A of this manual. The Account Team and the RTMC will work together to gather the information required to complete the Manager IV UIPW. The data entered on the UIPW will be used as input to the DOSS configurator when developing the Manager IV configuration. In addition, this data will be used as input for disk configuration at the time of the Manager IV software installation.

The CSM Input Parameters Worksheets used for the sale and installation of the existing CSM system can be used as a source of reference for the following information only: number and types of switches, and the number of call records. Before the information from the initial CSM Input Parameters Worksheets can be used, it must be verified for accuracy. Specific information needed for the Manager IV Upgrade IPW must be **collected**.

When the Manager IV UIPW is completed, the Account Team must review the parameters with the customer. When both the customer and the Account Team agree that the data on the UIPW concurs with the site's requirements, the customer must sign the UIPW.

The signed UIPW must be forwarded to the RCRC and REC where the following are developed:

- A final DOSS configuration specifying any new switch(s) PECs that will be ordered through DOSS.

  NOTE: A majority of the equipment that is specified on the DOSS configuration need not be ordered since it is part of the existing system and can be reused. The Account Team must inventory the existing system and compare this information to the DOSS output. If any new hardware is needed it should be ordered.

  The RTMC will determine the exact equipment that should be ordered using the DOSS configuration output.

Upgrade Information Form

The Upgrade Information Form (UIF) supplies all the information which will be needed by the person who is executing the actual upgrade steps. The form can be found in Appendix A of this manual. It must be completed by the Account Team and submitted to the Project Manager/SIM who will submit it to the NCSC along with the Manager IV Upgrade Input Parameter Worksheets. Instructions are provided on the form.

ORDER SOFTWARE, ADDITIONAL SWITCHES

The ordering procedures (including the coordination code of "7" and hardware/software field of "B", and placing the Manager IV software, and additional switches on separate DOSS order segments) that are outlined in *Manager IV Planning and Implementation* for orders for new Manager IV systems should be followed for upgrade orders. The following guidelines are provided as a summary.

- Manager IV software and initialization SPE 0304-CSM for switch upgrades, major additions to switch(es), addition of switch(es) or re-initialization of switch(es) due to out-of-synch conditions.

The facesheet fields should be populated with the following values:

- Software field should be a **fid of B**.
- The second position of the installation coordination field should be **X7**.

Order The Manager IV Software

The Manager IV software and documentation must be ordered and must be on-site for the scheduled upgrade. Order the software and the documentation via DOSS, using the standard PEC 1204. (This new Manager IV PEC includes the order and delivery of the Manager IV documentation.)

Schedule Orders

All Manager IV software orders must be individually scheduled by the National Product Scheduling (NPS) Group. Scheduling the order takes place after the Account Team has contacted and obtained the approval of the RTMC and TRC. To request scheduling and release of an order by NPS, fax the following information to the NPS:

- The branch code
- DOSS order numbers for software and peripheral equipment
- the MOJ
- Installation date.

Size Sensitive Pricing

Size sensitive software pricing is based on the number of ports that the customer has. The PECs for Manager IV are: PEC 1204-3D4, 1204-3D5, 1204-1204-3F4, 1204-F5, 1204-3F9.

Schedule Initialization Pricing

The DOSS configurator will specify the initialization SPE 0304-CSM and a price which reflects activities associated with TRACS and the NCSC taking the new switch data and initializing Manager IV. The customer must be billed for this activity if the switch is being upgraded or a new switch is being added to Manager IV (that is, all cases requiring a dbinit). The following prices must be carried.

Activity	Price
New or upgraded Generic 2, System 85 or DIMENSION FP8	$3,600 per switch
New Generic 1, System 75, or Adjunct being supported	$125 per switch or adjunct

If there are no switch upgrades being performed concurrently with the Manager IV upgrade, the initialization SPE 0304-CSM should indicate a quantity of $2,500 per System 85 or DIMENSION ® FP8 switch for which data is to be transferred from CSM to Manager IV.

Terminate Maintenance Contracts

Maintenance contracts must be terminated on the date of the Manager IV upgrade.

A new maintenance contract for the Manager IV software must be ordered. The Account Team should order this contract through DOSS using standard procedures.

Synchronize the DOSS Database

It is critical that the existing equipment is removed in DOSS so that the databases used by Services (BMIS, etc.) will reflect the correct Manager IV software currently used by the customer.

Customer Training

Customers who have their CSM upgraded to Manager V4 will receive the Computer Based Training (CBT) course *CSM To Manager IV: A Personal Tutorial*. This package is shipped along with the software and contains the course diskettes and documentation.

NOTE: This CBT package is an MS-DOS® based system. Customers must have compatible hardware to access this course.

CUSTOMER ORDERING RESPONSIBILITIES AND EXPENSE

The customer is responsible for ordering a TRACS tape for all upgraded switches in 60MB SCSI format.

[Switch Upgrades only] Ordering TRACS Tape

If a new switch is to be added to Manager IV, an existing switch is to be upgraded, or a major addition to an existing switch is being performed concurrent with the upgrade, a TRACS switch translation tape must be ordered by completing the "Request for Tape Retrieval Form" found in *Manager IV Planning and Implementation*. The tape format requested must be 60MB SCSI Cartridge Tape.

UPGRADE RESPONSIBILITY SUMMARY

There are a number of people involved in the upgrade process. The following is a summarized list of persons and their responsibilities during an upgrade. The list should be used as a guideline when developing an upgrade plan; it is not comprehensive.

Account Team

- Provide the customer with details of the change.
- Selling or convincing the customer to upgrade.
- Prepare the original request for upgrade.
- Establish an implementation team.
- Establish a Project Manager or System Implementation Manager (SIM).
- Gather and submit configuration parameters.
- Review the upgrade configuration with the customer.
- Schedule the upgrade with the customer.
- Confirm that customer has completed the CBT CSM to Manager IV course.
- Order all necessary hardware and software through DOSS: Additional switch(s) if any, Manager IV software and documentation.
- Oversee the upgrade preparations.
- Responsibility for holding the Sales/Service Hand-off meeting. This meeting must be held to secure a Project Manager/SIM.

RTMC

- Gather configuration parameters.
- Determine exact equipment to be ordered.
- Gain concurrence and signoff of Business Assurance process.

Project Manager/SIM

- Develop an implementation schedule with the Account Team.
- Verify that the proper OPS orders are issued/received.
- Negotiate the installation schedule with the NCSC.
- Coordinate DSO resources.
- Coordinate the installation of equipment.

NCSC

- Installation of Manager IV software.
- Coordinate the upgrade with the DSO technician and Project Manager/SIM.
- Enter the appropriate BMIS ticket used for field time reporting.
- Execute the upgrade according to the procedures outlined in this manual.

DSO Technician

- Installation of UNIX.
- Perform, under the direction of the NCSC, the on-site activities during the Manager IV software installation.
- Perform backup prior to the upgrade (during the upgrade).

Customer

- Aid the Account Team in defining current system information and new parameters for configuration.
- Complete the CSM to Manager IV CBT course.
- Perform the upgrade preparations: cleaning up the pending queue file and scheduled items; deleting any non-required UNIX files; putting the required files into their personal directory prior to the upgrade.
- Order and install communication lines as required for switch additions [customer's expense].
- Perform backups one week prior to the upgrade.
- Perform backups after completion of the upgrade.
- Purchasing the Manager IV Right to Use.

3. UPGRADE PREPARATIONS

To expedite the upgrade process, the preparations discussed in this section must be completed at the times specified.

INITIAL PREPARATIONS

Initial preparations for an upgrade include:

- [Switch Upgrades only] Ordering TRACS tapes
- Preparing the processor for the upgrade

The types of preparations needed are related to the characteristics of a customer's existing system. The preparations are explained in the following text. Perform only the applicable preparations.

Order TRACS Tape for Switch Upgrade, Major Additions, or New Switch

If the customer is planning a switch upgrade, a major addition to an existing switch, or a new switch is being added, a new TRACS tape is required. About 3 to 4 weeks prior to the upgrade weekend, a copy of the customer's switch translation data must be made and sent to the Software Technical Support (STS) Group. STS will load the tape onto TRACS and run a TRACS audit. The NCSC must work with STS to clean up the TRACS data to prepare it for blowback. During this period a "freeze" on switch changes is imposed—little or no changes can be made at the customer site to the switch data. For a complete understanding of preparing switch data for blowback, refer to *Manager IV Planning and Implementation*, Section 5.

SECONDARY PREPARATIONS

Perform the secondary preparations listed under this heading for any site that is being upgraded. The list below summarizes the preparations.

- Clean Up User Directories
- Clear Pending Queue
- Ensure SRs are Cleared
- Run Reports for Future Sanity Checks
- Double-Check the IPW Parameters
- Perform a full backup (no more than 1 week prior to the scheduled upgrade)

Complete explanations of the preparations are presented in the following text.

Clean Up User Directories

The customer should examine the user's home directories in /work/dbh/craft. Outdated or unused files along with "x." and core dump files should be deleted. This will speed up the file transfer.

NOTE: Do not delete report files which contain the sanity check output.

Clear Pending Queue

The Pending Queue (PQ) must be emptied by reducing the number of Service Requests (SRs) scheduled as the upgrade approaches. If any SRs remain at the time of the upgrade, the customer must use either of two following steps to completely clean out the PQ:

1. Change the date and time of the scheduled SRs to a date and time that will ensure they are executed before the upgrade. Use the **service-request change** command.
2. Remove the SRs from the PQ by backing them out using the command: **service-request remove**.

NOTE: A complete explanation of SRs and the CSM commands used to manipulate them can be found in *CSM Getting Started*.

On older CSM systems, the **service-request remove** transactions may leave undetectable entries in the pending queue or service request file. If any entries remain in the SR or PQ file for an upgraded switch, the **product remove** transaction used in the upgrade steps will fail. To ensure that there are no extraneous entries, perform the following procedure.

Procedure: Ensure SRs are Cleared

Purpose:

To extract extraneous entries from the Service Request and/or the Pending Queue for all switches. And to ensure that there are no processes scheduled to run for any switches.

Procedure Steps:

1. Log in as **csmsa**
2. List the Service Requests associated with your targets.

   Enter: **tcm admin service-request display**

   Note the associated Service Requests.
3. Begin the program which will identify outstanding Service Requests (SRs).

   Enter: **/usr/btl/tools/pr_verify**

   NOTE: To exit pr_verify, press (BREAK).

System Response:

```
This program will verify whether there are any entries for a particular
target that would cause a product remove to fail.   Any blocking items
are listed so the user can identify items to be removed or the remove
to work.

The areas checked are:
    1) pending queue or service requests
    2) srfile or service requests
    3) targrp file or membership in target groups
    4) schedule list or scheduler tasks   (and service requests)

Please enter target to verify:
```

4. **Enter the Product ID of the target.**

   NOTE: pr_verify must be run for each target that is being upgraded.

   Enter: *productid*

   where *productid* = the name of the target

   System Response:

```
The target is referenced in the pending queue by these service
requests:

527705040
imbs00311g

The target is referenced in the srfile by these service requests:
ijab111084
attmtask3

The target is referenced in the scheduler by these entries:
Hourly Traffic Poll

Transaction "product remove" blocked as target  productid is
still active
```

5. Clear the outstanding Service Requests listed in the top half of the system response by using the **service-request remove** transaction.

6. Run pfclean to correct errors found in the shadow pending queue and service request files.

   Enter: **pfclean -c -s**

7. Re-run the pr_verify program for the **same** target.

   Enter: **pr_verify**

8. Clear pending flags for each target.

   Enter: **/usr/btl/tools/pfclean -c** *product id*

   where *product id* = the name of the target.

Repeat steps 2 to 8 for all targets.

9. If there are still outstanding Service Requests, they must be manually removed using the steps below.

   A. Obtain the name of the corporation with which the target is associated. Use the **product display** transaction.

   B. Obtain the number of the corporation subfile associated with the target.

      Enter: **$SYSGEN/exupdb**

      System Response: `Transaction >`

   C. Enter: **number** *corp_name*

      where: *corp_name* = the name of the corporation associated with the target (see step A).

      System Response: The PBX ID of the corporation (usually 1) will display.

   D. Remove the corporation srfile.

      NOTE: This step may take a few minutes.

      Enter: **m r srfile** *pbxid*

      where: *pbxid* = the number of the corporation srfile obtained in step C.

   E. Reopen a new, empty, corporation srfile.

      Enter: **o srfile** *pbxid*

      where: *pbxid* = the corporation srfile number obtained in step C.

      System Response:

      ```
      Warning: file does not exist
      ```

      Ignore the warning.

   F. Create the srfile with the opened FLID.

      Enter: **m c FLID**

      ```
      FILE srfile pbxid CREATED SUCCESSFULLY
      ```

END OF PROCEDURE

Run Reports for Future Sanity Checking

After the upgrade has completed successfully, sanity checks are run to ensure that data was not lost or corrupted during the upgrade. Before attempting the upgrade, selective information from the existing database must be retained in the form of hardcopy printouts and report files.

Hardcopy Printouts. Obtained by using the appropriate Manager IV display function on a terminal equipped with the "print screen" feature and a printer. After the upgrade is completed, the hardcopy displays will be compared to a terminal display.

Reports. Are directed to a file in the user's home directory (suggested file names are provided in this document). The report files will be transferred during the upgrade. After the upgrade is completed, the contents of these reports will be compared to similar reports on the Manager IV database.

When to Run Reports. Both hardcopy printouts and reports should be run the day before the scheduled upgrade. If necessary, reports can be run as soon as three days prior to the upgrade; however, changes made to the particular type of report prior to the upgrade will appear in the sanity checks as discrepancies.

NOTE: Remember that if a particular switch (or switches) is being upgraded a comparison of old information is not possible since the target will not exist until after initialization has been completed on the upgraded switch (or switches). After this point comparisons can be made.

The selective information needed for sanity checking is listed below.

- Facility Management—Run the following reports:
  1. **fm report-admin ars-pattern report**

     Direct the ars-pattern report to a file in the user's home directory called, *arsold*.
  2. **fm report-admin trk-grp-summary report**

     Direct the trk-grp-summary report to a file in the user's home directory called, *trkgrpold*.

- Terminal Change Management—Run the reports and obtain the hardcopy output as follows:
  1. **tcm report-admin extension report**

     Obtain the selected range of 1000 extensions from the Upgrade Information Form (UIF). Direct the output of the extension report to a file in the user's home directory called, *extold*.
  2. **tcm report-admin cos report**

     Run a "cos-profile" report for "all".

     Direct the output of the cos report to a file in the user's home directory called, *cosold*.
  3. Obtain a hardcopy printout for one terminal of the following types: 12-button, 36-button, and analog. Selected set IDs for each terminal type can be obtained from the Upgrade Information Form (UIF).

     NOTE: It is recommended that you obtain a sample of a report for each target.

- UNIX files —save and print the following user and devices system files for later use. These files should be saved in csmsa's home directory (/usr/csmsa). They will enable you to reconstruct your current configuration on the new Manager IV system.

  /etc/inittab
  /etc/passwd
  /usr/src/csm/*siteid.m*
  /usr/lib/uucp/Permissions
  /usr/lib/uucp/Devices
  /usr/lib/uucp/Systems
  /work/tables/userlist

  Also execute and save a hardcopy of the **portdisp** and **lpstat -t** commands.

Double-Check the IPW Parameters

The RCRC must compare the new configuration parameters on the Upgrade Input Parameter Worksheet against the original configuration parameters to ensure that the required databases have not been accidentally down-sized. It is imperative that the current data fits into the database(s) configured on the new processor. To compare database sizes use the **dfdb** tool.

Full Backup One Week Prior to Upgrade

During the upgrade period, a set of full backups will be performed to guard against down-time in the case where an upgrade may fail. To save valuable upgrade time CSM customers are required to perform a full set of backups no longer than **one week** prior to the upgrade date, and a full system backup during the upgrade period.

If the upgrade procedure fails and the customer must be restored to a CSM V4 system, the restore will be taken from the backup done during the upgrade period. If this backup is in any way unusable, restore will be performed using the backup from the previous week. After restoration, the database will be updated by applying the CSM logs.

Additional Preparations for Switch Upgrades Only

Perform the preparations listed under this heading for any switch that is being upgraded or to which a major addition is being added. These preparations are performed in addition to those listed for all types of upgrades. A summary of the preparations is listed below:

- Resolve Failed SRs and Remove Results Files
- Cancel All Scheduled Processes

Resolve Failed SRs and Results Files

To speed up the transfer of files, the customer must resolve all failed Service Requests (SRs) and remove all results files.

Cancel All Scheduled Processes

Any process—for example, Hourly Traffic Polling—that is scheduled to run for a switch which will be updated must be cancelled. Use the appropriate application transactions to unschedule processes, or use the **scheduled-entry remove** transaction.

Prepare For Upgrades, Perform Database Audits

As a final preparation for all types of upgrades, database audits must be performed on the existing database. Audits must be performed at least two weeks prior to the scheduled upgrade to allow enough time for corrections. The audits will check the integrity of the current database.

Run database audit, **rmaudit**, as explained in the following procedure.

Procedure: Run Database Audits

rmaudit - audit record manager file sets

Synopsis:

rmaudit [-v] [-s] [filename or **ALL] 2>&1 &**

Description:

rmaudit audits the named file for potential problems such as unresolved chains in the record manager set structure. There must be ample space in the current directory's file system for the audit data. This requirement is typically about 5% of the space allocated to the actual files. **rmaudit** can only be run when the database is not being used.

Options:

If the -v option is specified, trace statements are printed tracking the progression of the command as the set extraction and set audit commands are executed.

To monitor the audit and save its output, audit must be invoked as **nohup rmaudit [args] &**. Enter **tail -f nohup.out** to get progressive output. Press **BREAK** to interrupt the output without stopping the rmaudit process.

The -s option tells you how many records were found and the sizes of the temporary files it creates.

The filename may specify either the file manager or the record manager file name. The record manager's in-core tables are interrogated to determine the relationship between that file and others.

If ALL is used as the keyword, all files are extracted and all sets are audited.

Environment Variables: FSNAME

Procedure Steps:

1. Log in as root.
2. Make a /work/AUDIT directory and change to it.
   A. Enter: **mkdir /work/AUDIT**
   B. Enter: **cd /work/AUDIT**
   C. Enter: **chmod 777**.
3. Execute the environment list.

   Enter: **. /etc/envlist**
4. Start **rmaudit** with the options shown.

   Enter: **nohup $SYSGEN/rmaudit -sv ALL > AUDIT.OUT 2>&1 &**

   tail -f AUDIT.OUT

System Output:

The output of the rmaudit command formatted as follows:

```
Extracting owner
      244 records
Extracting hash
      3594 records
Auditing oh
file:  O.oh            size:  1464          owner records:  122
file:  M.oh            size:  1952          member chains:  122
Extracting heap
      4660 records
Auditing ohp

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

output between dotted lines indicates errors

```
Unresolved chains - Set is ohp

RLNK                BEGIN             END               FLNK

heap 1 31 22        ownr 1 2 6        ownr 1 2 6        heap 1 45 25
ownr 1 2  6         heap 1 45 25      heap 1 45 25      heap 1 91 22
ownr 1 2  6         heap 1 91 22      heap 1 31 22      ownr 1 2 6

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
audit of set ohp failed
file:  O.ohp        size:  1512       owner records : 126
file:  M.ohp        size:  2032       member chains:  127
Extracting hash2
      4308 records
Auditing oh2
file:  O.oh2        size:  1416       owner records:  118
file:  M.oh2        size: 1888        member chains:  118
Auditing hh
```

Any errors found must be escalated to the next maintenance tier before proceeding with the upgrade.

END OF PROCEDURE

4. UPGRADE PROCEDURES

This section describes the procedures needed to upgrade an existing CSM V4 system to Manager IV.

AUTOMATED UPGRADE PROGRAMS

CSM V4 to Manager IV upgrades were designed to be as uncomplicated as possible. To expedite the upgrade and to eliminate as much human error as possible, interactive automated upgrade programs were designed.

The automated programs perform the majority of the upgrade with very little intervention. These programs are divided into two sections, a CSM V4 section and a Manager IV section. All these programs reside in the **$CONVERT** directory.

The CSM V4 upgrade programs include the following:

— **migconfig** - this module sets up the environment that is needed for subsequent modules by creating a new environment file called **env.mig**. This file performs the following functions:

- "Dots" the /etc/envlist
- Adds $CONVERT to the PATH variable
- Sets LOGGING=no.

— **get_targs** - this shell retrieves all product targets from the database and, based on keyed input, distributes these targets into four files:

targets contains all targets

targs.upgr contains only the targets that are to be upgraded

targ.noup contains only those targets that are not to be upgraded

targs.pbx contains the pbxids of the targets (System 85) that are being upgraded for use by the database dump tool (spdump).

— **v4upgr** - this module first checks for the existence of the "get_targs" output file and executes this file. It will then execute the **non-switch-data retrieve** transaction for the new Listed Directory Numbers (LDNs) assigned to the target(s) to be upgraded.

— **savev4** - this module is the main calling program for the two modules responsible for the UNIX file save and the CORE database save. The program will check to confirm that **$TAPE** is set and exported. This allows you to specify the name and type (qic or 9-track) of tape drive that is to be used.

Since Manager IV no longer contains the Cost Management, Traffic Management or ATMS components, the following list of files *will not* be saved by the upgrade programs.

pq	spq	acct	accthist
adjust	blsum	cdrsum	charges
chgcotbl	clfld	config	csferr
reason	summary	taxtabl	tassumm
vendor	combo	dciu	inclist
ibcu	pattns	pktc	pms
pmsindx	prof	psum	traf
eft	plog	poll	hdr
devs	files	fields	flddefs
smt	sets	filehis	dbaqueue
adjpay	atmsth	atmstm	atmsme
atmsge			

- **SYSsflat** is the program which saves the UNIX files to tape. The application directories to be saved are:
  - The /work/convert files created by **get_targs**
  - /work/nswfiles
  - /work/dbdata/table
  - /work/delta

  All user home directories are saved as individual cpio archives and stored in /work/archive.up

- **Spdump** - this program dumps the CORE files to tape.

The Manager IV Upgrade programs are listed below.

- **migconfig** - identical to the CSM V4 migconfig program.
- **loadmgr4** - This is the main calling program for loading and conversion routines used in the Manager IV segment of the upgrade. This routine also checks if **$TAPE** is set as described earlier (see **savev4**).

  The output of all routines is captured in mgr4.outPID.

  - **SYSsflat** - This program reads in the UNIX flat files which were saved from the CSM V4 system.
  - **spload** - This program loads the CORE data from the tape.
  - **mgr4adj** - This program converts the *type* and *ctpe* field of the cust records to **AP** and **ADJUNCT** respectively for all products now considered adjuncts.
  - **swtchcnv** - This program changes the **ctpe** field of System 85 and Dimension 600/2000 to **SYS85** and **D2000** respectively. This change is required for new product transactions to work correctly.
  - **portcnv** - This program removes parenthesis from the port phone numbers of the products.
  - **cnvsmcmp** - This program zeros out the TM and CM bits in the *smcmp* field of the product records.
  - **rmetnid** - This program removes the *etnid* field from the corporation record.

Checkpoint File (conv.chkpt)

The upgrade scripts are comprised of smaller subscripts which perform the actual steps for the upgrade. The checkpoint file, **conv.chkpt**, keeps a record of each of the subscripts which have completed successfully. The **conv.chkpt** file is referenced in the event of a restart to determine exactly which steps are completed and at which step to proceed.

If for any reason, a particular step of the upgrade must be redone, the name of the subscript which performs that step must be removed from the **conv.chkpt** file.

NOTE: The **spdump** routine which transfers the CORE database to tape is placed in the checkpoint file when database transfer begins. In order to restart database transfer, spdump must not be removed from the **conv.chkpt** file.

The following is a list of the entries to the **conv.chkpt** file for CSM V4 and Manager IV respectively:

CSM V4

nsw_ret (switch upgrades only)
v4upgr
SYSsflat
spdump
savev4

Manager IV

SYSrflat
rmalias
spload
dbmig
crfils
cqp
mgr4adj
modhtconv
featrconv
color
swtchcnv
portcnv
cnvsmcmp
rmetnid
loadmgr4

This table lists the "master" script, the subscript(s) it runs, and the particular upgrade step that the subscript(s) performs.

Master Script	Subscripts	Upgrade Step	Output File
v4upgr	nsw_ret	[Switch Upgrade only] nonswitch-data:retrieve	
	np_null	[Number Portability only] Nulls out NPID	
	v4upgr	All steps of master script completed successfully	v4upgr.out*PID*
savev4	SYSsflat	Saves UNIX files to tape	cpio.list
	spdump	Dumps the CORE database to tape	unix.out*PID*
	savev4	All steps of master script completed successfully	savev4.out*PID*
loadmgr4	SYSrflat	Loads UNIX files from tape	unix.in*PID*
	spload	Loads CORE data from tape	load.out*PID*
	rmalias	Remove old products from alias files	
	dbmig	Database file conversions complete	
	crfils	Creates CORE files which have not been created	
	cqp	Remove old products from cust files	
	mgr4adj	[Adjuncts only]Converts the *type* and *ctpe* fields	
	modhtconv	[Sys 85 and DIMENSION only]Populates the MODHT fid	
	featrconv	Changes the size of the FEATR fid from 8 to 13 bits long	
	color	Changes abbreviations of the set color to the full spelling	
	swtchcnv	[Sys 85 and DIMENSION only] Converts the *ctpe* field	
	portcnv	Removes parenthesis from product port phone numbers	
	cnvsmcmp	Zeros out TM and CM bits in "smcmp" field from prod. rec.	
	rmetnid	Removes the "etnid" from corp. record [DCS and ETN networks only]	
	loadmgr4	All steps of master script completed successfully	mgr4.out*PID*

where *PID* = the UNIX process id

UPGRADE PROCEDURES

The following section provides you with upgrade information and associated procedures. This section covers both CSM V4 to Manager IV Upgrade— with and without switch upgrade.

Procedure: Perform A Full Set of Backups

Purpose:

To ensure that pertinent data is not lost due to hardware or software problems that may occur during the upgrade weekend, a set of full backups on the existing system must be performed prior to beginning the upgrade scripts.

NOTES: A set of full backups must be performed one week prior to the upgrade date. If circumstances occur which prohibit a successful upgrade to Manager IV, recovery will be taken from the full backup performed during the upgrade. If the upgrade backup is unusable, the week-old backup will be used to restore the CSM V4 software and logs will be applied to bring the database up-to-date.

There is no substitution for performing at least one full set of backups during the upgrade.

Procedure Steps:

1. Enter: **bradm full_dump**

   NOTE: For a complete description of performing a system backup, refer to *Manager IV System Administration*.

2. Proceed to "Procedure: Create The Upgrade Env. and Save UNIX and CORE Files".

END OF PROCEDURE

Procedure: Create The Upgrade Env. And Save UNIX And CORE Files

Purpose:

Use this procedure to set up the upgrade environment and save the UNIX flat files to tape.

Document Used In This Procedure:

AT&T 3B2 Computer UNIX System V Release 3 System Administrator's Guide

NOTES:

1. UNIX must be left in multi-user mode; however, additional users must be restricted from system use during the upgrade.
2. [Number Portability Networks] Except where explicitly indicated, the steps in this procedure can be used to properly upgrade systems using a Number Portability Network.

Procedure Steps:

1. On the remote terminal, log in as **csmsa**. Then change to the **root** login using the UNIX **su** command.
2. Set up the environment.

   Enter: **. /etc/envlist**
3. Set the terminal variable if necessary.
4. [Switch upgrade only] Check the permissions on the /work/nswfiles.

   They should be read | write and executable for everyone. If they are not, change the permissions.

   Enter: **chmod 777 /work/nswfiles**
5. Kill the cron process.

   Obtain the cron process id.

   Enter: **ps -ef | grep cron**

   Kill the process.

   Enter: **kill** *cron process id*
6. Change to the /work/convert directory.

   Enter: **cd /work/convert**
7. Create the upgrade environment variable list *envmig*.

   Enter: **migconfig**
8. Execute the **env.mig** to set up the upgrade environment.

   Enter: **. env.mig**
9. Execute the **v4upgr** script.

   Enter: **v4upgr**

   [Sample] System Response:

```
Reading cust file ...

Found the following target(s):
headquarters:  System 85
kentwood:  Dimension 2000
stow:  System 75

Are any switch upgrades being performed?
Migration pre-conversions complete.
```

10. Indicate whether or not switch upgrades are being performed.

No Switch Upgrades	If there are no switch upgrades, enter: **n** System Response: The system will pause for a few minutes while migration pre-conversions are being performed. When conversions are complete "Migration pre-conversions complete" is displayed. Go to step 9.
Switch Upgrades	If switch upgrades are being performed, enter: **y** **NOTE:** In a Number Portability Network where switch upgrades or the addition of a network node is planned, a complete reinitialization of the entire network is required.

System Response:

```
For each upgradable product, enter the corresponding
NEW ldn, or simply <RETURN> if no upgrade is being done;
Enter NEW idn for headquarters: branches
```

11. [Switch Upgrades Only] Enter the Product IDs for switches being upgraded.

NOTE: NEW target names must be named differently from the original target names.

System Response: When all new targets have been entered, the script will automatically put the user into the non-switch-data retrieve for the first new target.

[Number Portability Networks (NP)] If an NP network is present the script will perform functions to make the original NP network appear as an ordinary multi-node configuration so that the remainder of the step can execute. Add the Number Portability Network ID (NPID) when adding the new targets into the database.

The system will automatically retrieve nonswitch data for upgrade targets.

System Response:

```
Creating alias file record for "branches" ...
Alias file record created successfully.

Performing non-switch-data retrieve for "headquarters"

      Retrieve non-switch data to CSM database?:  y
      Is this for a switch UPGRADE:  y

      UPGRADE retrieve selected! - Enter NEW target: branches

      Choose either the ALL option or one or more of the following:

                x  Select ALL
                   Extension user
                   User
                   Wiring
                   Locales
                   WATS Trunks
                   CO/FX/DID/APLT Trunks
                   Tie Trunks
                   Set Attributes
```

The ALL option retrieves the data from each switch automatically.

NOTES: The system will pause for a few minutes while migration pre-conversions are being performed. When conversion are completed, "Migration pre-conversions complete" is displayed.

The targets that are to be upgraded have been assembled into a file which will be loaded back on to the system after upgrade to Manager IV. Remember that these switches must be added to the database during the installation phase of upgrades (later on in this process) using the "Procedure: Add a Manager IV Supported Product" or "Procedure: Add Cut-through Access To a Product" in *Manager IV Installation, Initialization, and Maintenance* .

12. Save the UNIX flat files.

    Insert a tape in the tape drive.

    Set and export the tape variable.

    Enter: **TAPE=/dev/rmt/qtape1;export TAPE**

    Enter: **savev4**

    [Sample] System Response:

```
Please mount a fresh tape on the tape drive
Ready ? (y or n)  y
The tape drive is ready.

Listing work/convert files.
Listing work/nswfiles files.
Listing work/delta files.
Creating cpio archive for cop login.
1 blocks
Removing "cop" directory.
Completed archive for cop.
```

At this point, the system continues to archive the remaining UNIX flat files and will return the success message to the screen upon completion.

```
The UNIX file save has completed successfully.
Remove tape from the tape drive and label as "UPGRADE UNIX FILES"
```

13. Save the CORE files.

    Mount a new tape on the tape drive and follow the screen instructions.

```
Please mount a fresh tape on the tape drive
Ready ? (y or n)  y
The tape drive is ready.
```

After entering the **y** the system begins the task of dumping the FM and TCM CORE files on the system to the new tape. The following screen is a sample of the type of output you should expect.

```
DUMPING FILE tenant ...
SUCCESSFULLY DUMPED 2087 RECORDS.
LAPSED TIME: 25.47 SECS. CPU TIME: 13.85 SECS.

DUMPING FILE ap ...
SUCCESSFULLY DUMPED 4 RECORDS.
ELAPSED TIME: 0.10 SECS. CPU TIME: 0.05 SECS

*** DUMP COMPLETED ***
```

At this point all the necessary data that is needed from the current database for upgrade to Manager IV has been saved to tape.

The next step in the upgrade sequence is the installation of UNIX 3.2.1. software and Manager IV software.

END OF PROCEDURE

Procedure: Load UNIX 3.2.1 and Manager IV Software

Purpose: This procedure provides you with information regarding the installation of UNIX 3.2.1 and Manager IV on the processor.

Background:

The new software has specific memory requirements that differ from the current CSM V4 configuration. These memory requirements necessitate the installation of UNIX 3.2.1 software even if the current system is already running the correct release.

The Manager IV software must also be loaded before the information obtained from the current CSM V4 system can be added to the database.

Procedure Step:

1. See the installation sections (1 through 4) of *Manager IV Installation, Initialization, and Maintenance*. In addition, see "Installing UNIX On A 3B2-600" in "APPENDIX D. Field Service Installation Tasks" of the same manual.

   NOTE: The following utilities must be installed after the full restore of the UNIX 3.2.1 operating system utility in order for the upgrade to be successful.

   - Eport version 1.3
   - Security Administration
   - AIC utilities
   - optional 9-track utility

END OF PROCEDURE

Procedure: Add User Information

Purpose:

The purpose of this procedure is to provide you with the necessary information for adding user logins.

Background:

There are two steps involved in adding a user login. The login must be present in both the **/etc/passwd** file and the **$SYSROOT/work/tables/userlist**. If the login is missing from either the userlist or passwd file an error will result when loading the CORE files.

Prerequisites:

Installation of UNIX 3.2.1 and Manager IV must be complete before performing this procedure. See the installation sections of *Manager IV Installation, Initialization, and Maintenance* if necessary.

Procedure Step:

1. Administer uucp.

   In order to recreate the same uucp configuration as the CSM V4 use the /usr/lib/uucp/(Permissions, Devices, and System) files saved during the upgrade preparation as a guide for administering uucp.

2. Administer user's line printers.

   In order to recreate the same user printer information use the data from the /etc/inittab file saved before the upgrade.

3. Add users.

   Refer to "Procedure: Add a Login to UNIX" and "Add a Login to Manager IV" in *Manager IV System Administration* for specific steps.

   NOTE: It is recommended that you have a hardcopy of the /etc/passwd file previously obtained to use as a reference when adding users.

END OF PROCEDURE

Procedure: Load UNIX and CORE Files

Purpose:

This procedure provides you with the steps for loading UNIX flat and CORE files obtained from the CSM V4 system.

Procedure Steps:

1. On the remote terminal, log in as **smsa**. Then change to the **root** login using the UNIX **su** command.
2. Set up the environment.

   Enter: **. /etc/envlist**
3. Change to the $SYSROOT/work/convert directory.

   Enter: **cd $CONVERT**
4. Create the upgrade environment variable list *envmig*.

   Enter: **migconfig**
5. Execute the **. env.mig** to set up the upgrade environment.

   Enter: **. env.mig**
6. Load the UNIX flat files.

   Mount the tape containing the UNIX files on the tape drive.

   Set and export the tape variable.

   Enter: **ls -l /dev/rmt/c*t*s*d***

   Identify the tape drive ID (usually the first item of the listing) and link it with the name *qtape1*.

   Enter: **ln /dev/rmt/c***n***t***n***s***n***d***n* **/dev/rmt/qtape1**
   where *n* = the numbers from the first item of the device listing (above)

   Enter: **TAPE=/dev/rmt/qtape1;export TAPE**

   Execute the **loadmgr4** module.

   Enter: **loadmgr4**

   Follow the screen's instructions.

   System Response:

```
Please mount tape containing Unix files on the tape drive
Ready ? (y or n) y
```

   At this point the system begins loading the UNIX flat files.

[Sample] System Response:

```
work/convert/corpid
work/convert/numbport
work/covert/targs.noup
work/convert/targs.upgr
work/convert/targs.pbx
work/nswfiles
work/nswfiles/cINIT2
work/nswfiles/eINIT2
work/nswfiles/nresults
        .
        .
        .
work/nswfiles/cA2switch
work/nswfiles/cA2switch/0
work/dbdata/table
        .
        .
        .
work/dbdata/table/dummy
work/archive.up
work/archive.up/ail
        .
        .
        .
Expanding archive for "ail"...
2220 blocks
 .
Expanding archive for "smdba"...
 .
 scrap
 .product
TEST

Unix files have been restored successfully.
```

NOTES: The above output is captured in *unix.inPID*.
where *PID* = the UNIX process id.

If the following message is encountered during the CORE file load, it means that the login has not been added to the **/etc/passwd/** file and/or the **$SYSROOT/work/tables/userlist**.

You can let the load continue, but make a note the logins in question and go to "Procedure: Add User Information" and "Error Case 1: Missing User Information."

```
WARNING: login not added in the /etc/passwd and/or  $SYSROOT/work/
tables/userlist.
Archive for "login" will be preserved in  $SYSROOT/work/archive.up/ login.
Refer to documentation for extracting files.
```

After the UNIX files have been restored, you can begin the process of loading the CORE files.

7. Load the CORE files.

Mount the tape containing the CORE files on the tape drive.

Follow the screen's instructions.

```
Please mount tape containing CORE files on the tape drive
Ready ? (y or n) y
```

At this point the system begins the loading process.

```
LOADING FILE tenant ...
SUCCESSFULLY LOADED 2087 RECORDS.
ELAPSED TIME: 25.47 SECS. CPU TIME: 13.38 SECS

LOADING FILE ap ...
SUCCESSFULLY DUMPED 4 RECORDS.
ELAPSED TIME: 0.10 SECS. CPU TIME: 0.05 SECS
       .
       .
       .

*** LOAD COMPLETED ***
```

At this point the system begins executing the five database conversions.

NOTE: All the output from the UNIX flat file load and CORE is captured in the file mgr4.out *PID*. where *PID* = the UNIX process id

```
Performing Adjunct product type conversion...
Reading cust file ...

Changing nyc to type "AP" and ctpe "ADJUNCT" ...
Changing hqa to type "AP" and ctpe "ADJUNCT" ...
       .
       .
       .
Changing sd to type "AP" and ctpe "ADJUNCT" ...

Performing ctpe conversions on SYS85 or DIM type switches ...
Changing cdc to ctpe "SYS85" ...
Changing hqa to ctpe "SYS85" ...

Performing product port conversion ...
Reading cust file ...

Removing () from port number for nyc ...

Removing () from port number for hqa ...

Removing () from port number for chiaud ...

Converting "smcmp" field in cust records to remove TM and CM ...

Removing "etnid" field from corporation record ...

LOADMGR4 STEP COMPLETE
```

NOTE: If you have a Number Portability Network, follow these steps to create the necessary files for the Number Portability target:

1. Change to the $SYSROOT/work/convert directory.

   Enter: **cd $CONVERT**.

2. Create the CORE files for the Number Portability target that have not been created yet.

   Enter: **crfils.up** *PBXID* **2**.
   where *PBXID*=pbxid number for the Number Portability target.
   2 is a required parameter.

Use the following table to determine where to proceed from this point.

If	Then
You are upgrading switches or adding switches	• Go to "Procedure: Initialize Switches"
You are not upgrading switches or adding switches	• Perform upgrade sanity checks explained in section 5.

END OF PROCEDURE

Error Case 1: Missing User Information

Purpose:

Use this procedure to link users to their respective user information.

Background:

This function is "normally" performed by the system. If, however, a user has not been added to the **/etc/passwd** and the **$SYSROOT/work/tables/userlist** before loading the CORE files the user information must be linked manually.

Prerequisites:

The user must first be added to the **etc/passwd** and the **$SYSROOT/work/tables/userlist** before the information can be linked. See "Procedure: Add a Login to UNIX" and "Procedure: Add a Login to Manager IV" in *Manager IV System Administration* for specific steps and information.

Procedure Steps:

1. Log in as root.
2. Move to the directory holding the archived user information.

   Enter: **cd $SYSROOT/work/archive.up**
3. Link the user information to the desired login.

   Enter: **su** *login* **-c "cpio -ivdum** /*loginhome*/smgr < *v4login*"

   where *login* = the login name that has been added to the /etc/passwd and the Manager IV database.

   loginhome = the home directory of the login on the new Manager IV system.

   v4login = the name that the login had on the old CSM V4 system.

END OF PROCEDURE

Procedure: Initialize Switches

For each switch that was upgraded or any additional switches being added at upgrade time, initialization procedures must be run.

[Number Portability Networks] If one or more switches were upgraded in a Number Portability (NP) Network, the entire network must be reinitialized. Perform the **init setup** transaction for at least two nodes before creating the NP Network. Use the procedures listed in Section 4 of *Manager IV Installation, Initialization, and Maintenance*. Procedures include:

- Adding the product
- Loading the TRACS tape
- Initialization Setup
- Defining Switch Hardware
- [Number Portability Networks only] Creating a Number Portability Network
- Starting Initialization
- Monitoring Initialization
- Locating Initialization Results
- [Number Portability Networks only] Deleting Number Portability Network File

After completing the switch initialization procedures, nonswitch data for each upgraded switch must be retrieved, using **system-administration non-switch data add**.

When multiple switch initializations are being performed, the following steps must be performed after each switch initialization.

- Perform a CORE backup
- Start up Manager IV

Make sure all the procedures above have been completed.

The upgrade is complete. Reboot the new processor and proceed to the Sanity Checks in Section 5 of this manual.

END OF PROCEDURE

5. UPGRADE SANITY CHECKS

The sanity checks contained in this section should be performed once all the required Upgrade Steps (see Section 4) have been completed. To perform the sanity checks outlined in this section, the reports which were run during the Preparations (see Section 3) are needed.

FACILITY MANAGEMENT SANITY TESTS

During the Upgrade Preparations, two types of Facility Management (FM) reports were run and sent to a file in the smas's home directory. Use the following steps to check the integrity of FM data.

1. Run the same reports on the Manager IV software:

   fm report-admin ars-pattern report

   Direct the ars-pattern report to a file in the smsa's home directory called *arsnew*.

   fm report-admin trk-grp-summary report

   Direct the trk-grp-summary report to a file in the smas's home directory called *trkgrpnew*.

2. When the reports have completed, use the UNIX **pg** command to view the file. Visually compare a random sample of the file's content with the new output.

TERMINAL CHANGE MANAGEMENT SANITY TESTS

During the Preparations of the upgrade, two Terminal Change Management (TCM) reports were run. The report output was directed to a file in the smsa's home directory. Also, printouts were produced for one terminal of each of the following terminal-types: 12-button, 36-button, and analog. Use the following steps to check the TCM database integrity.

1. Run an extension report for a range of 1000 extensions on the new Manager IV database. Use the same range that was used during Preparations. See the Upgrade Information Form for the correct range.

   tcm report-admin extension report

   Direct the output of the extension report to a file in the smsa's home directory called *extnew*.

2. When the extension report is completed, use the UNIX **pg** command to view the contents of the old file. Visually compare a random sample to the new report.

   Check for any large discrepancies. If large discrepancies are found, escalate the problem to the next maintenance tier.

3. Run a class-of-service report for "all" on the Manager IV database.

   tcm report-admin cos-profile report

   (Direct the output of the cos report to a file in the smas's home directory called, *cosnew*.)

4. When the class-of-service report is complete, use the UNIX **pg** command to view the contents of the old file. Visually compare the file with the new output.

   If large discrepancies are found, escalate the problem to the next maintenance tier.

5. Display and print the Manager IV information stored for one terminal of each of the following types: 12-button, 36-button, and analog. Use the same Set IDs used during the secondary preparations. See the Upgrade Information Form for correct Set IDs.

   Compare the hardcopy printouts. If large data discrepancies occur, escalate the problem to the next maintenance tier.

OVERALL MANAGER IV DATABASE SANITY TEST

To check the integrity of the Manager IV database as a whole, run an **rmaudit** on it. Section 3 of this manual provides complete directions for running **rmaudit**.

NOTE: Please note that the rmaudit command for Manager IV no longer carries the **-s** option.

APPENDIX A. FORMS

Appendix A is a collection of all the forms necessary to plan and implement a successful upgrade. The forms contained in this appendix are referenced throughout the body of this manual. Below is a summary list of the forms.

- **Manager IV Upgrade Input Parameter Worksheet (UIPW)**—The Manager IV Upgrade IPW must be completed in order to correctly configure the 3B2-600 processor for the customer. It is similar to the IPW used to sell and implement new Manager IV systems.
- **Upgrade Information Form (UIF)**—The UIF must be completed by the Account Team (with the assistance of the customer) and must be at the NCSC at the time of the upgrade. The UIF contains all the information that will be prompted by the actual upgrade steps.
- **Implementation Team Information Sheet (ITIS)**—The ITIS must be completed so that all persons involved in the upgrade will know who to contact if questions or problems arise. It contains the names, addresses, and phone numbers of each person involved in the upgrade.

MANAGER IV UPGRADE INPUT PARAMETER WORKSHEET (UIPW)

The Manager IV UIPW must be completed in order to correctly configure the 3B2-600 processor for the customer. It is similar to the IPW used to sell and implement new systems.

MANAGER IV UPGRADE PARAMETER WORKSHEET (UIPW)

Originator: _____
Location: _____
Input by: _____
Date: _____

NOTE: All parameters must be specified for four years beyond Manager IV installation.

CUSTOMER: _____ SERVICE DATE: ____/____

Is this an upgrade request for a CSM V4? _____

Is this a request for the Call Accounting interface to another processor? _____

Switch Number:	_____	_____	_____	_____
Type:	_____	_____	_____	_____
Release or FP and Issue:	_____	_____	_____	_____
*Custom Software?	_____	_____	_____	_____

Total number of System 85 switches: _____

Total number of Generic 2 switches: _____

Total number of System 85 and Generic 2 switches under Tenant Services: _____

Total number of DIMENSION FP 8 switches: _____

Total number of Generic 1 and System 75 switches: _____

Belongs to network labeled as:

ETN:	_____	_____	_____	_____
DCS:	_____	_____	_____	_____
Number Portability:	_____	_____	_____	_____

Total number of System 85 and Generic 2 switches under Number Portability: _____

IMPLEMENTATION TEAM REQUIRES CONFIGURATION BY: ____/____/____

_____

* **If the switches contain custom software, refer the configuration request to the Denver Special Development Group and record the SD numbers here:**

_____

Switch Number: _____ _____ _____ _____

Total Number of ADJUNCTS:

ISN: _____ _____ _____ _____

AP: _____ _____ _____ _____

AUDIX: _____ _____ _____ _____

AP equivalents: _____ _____ _____ _____

Other CSMs or Mgr IVs: _____ (Attach explanation of intended interactions.)

Total number of ISNs: _____; APs + Equivalents: _____; AUDIXs: _____

TOTAL NUMBER OF ADJUNCTS: _____

Stations under TCM (Generic 2, System 85, and Dimension FP 8 only):

Analog: _____ _____ _____ _____

12-button: _____ _____ _____ _____

36-button: _____ _____ _____ _____

DTDMs: _____ _____ _____ _____

EIA terminal ports: _____ _____ _____ _____

Non-AT&T terminals (Generic 2): _____ _____ _____ _____

Total: _____ _____ _____ _____

TOTAL TCM STATIONS: _____

Total 12-button stations: _____

Total 36-button stations: _____

In addition, add one 12-button set for each add-on feature module, coverage module, etc., (ex. 7407d, PT510): _____

Number of Busy-Hour Station adds, changes, or removes per 1,000 stations with Manager IV transactions (usually 4 per 1,000 stations): _____

Trunks: _____ _____ _____ _____

TOTAL FM TRUNKS: _____

Number of Busy-Hour Trunk adds, changes, or removes per 1,000 trunks with Manager IV transactions (usually 2-3 per 1,000 trunks): _____

Total number of Translated Auth Codes: _____

SIMULTANEOUS Manager IV USERS

Number of Busy-Hour Local Manager IV users: _____

Number of Busy-Hour Remote Manager IV users: _____

TOTAL LOCAL Manager IV TERMINALS

Number of local 730 MTG terminals (1 - 2 user sessions/terminal)
for access to local 3B2-600 or 6386E/33 WGS applications only: _____

Number of local 615 BCT terminals (1 user session/terminal)
for local applications and cut-through to System 75s and Adjuncts: _____

HARDWARE DETAILS

On-Hand or requested additional External SCSI disks:

UPGRADES ONLY:

_____ 135 Mb disks plus

_____ 147 Mb disks plus

_____ Number of SCSI DCMs

_____ 300 MB disks (DM/300S only)

Number of XM-900S (3 300MB-disk) packages in addition to above: _____

Number of XM-405S (3 135MB-disk) packages in addition to above: _____

Optional 9-Track (6250 bpi) Tape for faster system backups or
external transfer of TCM and FM report files? _____

Output of bulk Customer Directory Updates via 9-track tape? _____
(default media is floppy disk for 3B2 Manager IVs and 3B2 Message Server

Optional Silent Knight® transmitter (for processor alarming)? _____

Cross-connect Field Hardware: _____ Cablerun Footage to Wall/Aux: _____

Modem Cabinet Type: _____ Substitutes for 50-ft. EIA cables? _____

INSTRUCTIONS AND PARAMETER DEFINITIONS

GENERAL Complete one set of forms for each Manager IV showing both cutover parameters or four year growth parameters. In the case where the customer's network is partitioned over several Manager IVs, consider only the parameters for the switches served by each Manager IV (with 1 set of forms per Manager IV) while assuring that totals apply only to switches belonging to the partition under consideration. The terminology "switches, System 85s, & Dimension FP 8s (3L7, or 1.16 issues)" will be used to cover entities within the Manager IV, while "locations and PBXs" will be used to cover switching entities beyond the Manager IV at hand.

The option for a Call Accounting Interface is for the transferral of station inventory database records to an external processor.

Total Number of System 75 or Generic 1 switches System 75 and Generic 1 switches are presumed to be served by TCM and FM for purposes of configuring CPU and port usage.

Network Affiliations These relationships serve as background information that aids in answering database initialization questions at installation time. In the case of multiple Manager IVs, the presumption is that 1 ETN is partitioned and that the ETN label will be consistent across Manager IVs.

ADJUNCTS The total of ISNs, APs, and AUDIXs is used to determine CPU load as well as port engineering. The notion of "equivalent" APs is used to cover other Manager IVs (in a partitioned ETN).

TOTAL TCM STATIONS The number of Generic 2, System 85, and DIMENSION FP 8 stations under TCM. This total must be equal to #12button-stations + #36button-stations + #(Analog, DTDMS, and EIA Terminals).

Please refer to *Manager IV Planning and Implementation* for a mapping of the Manager IV station types into equivalent 12-button and 36-button sets.

TOTAL FM TRUNKS All the trunk circuit pack ports that will be terminated with facilities are required in this parameter. In the case of Tie trunks between switches, the count is expected to be two for each trunk facility (when both switches are covered by the Manager IV under consideration).

BUSY-HOUR CHANGE RATES These entries are the expected number of adds, changes, or removes in the peak season busy hour. All transactions are in terms of Manager IV transactions, not procs, (e.g., extension, 12-button, or trk-grp) with an expected display transaction for each add, change or remove. The standard peak season and busy-hour assumptions translate 2.5 operations per station per year into 4 operations per 1,000 stations per busy hour and 1.5 operations per trunk per year into 2.4 operations per 1,000 trunks per busy hour. Each Manager IV user can be expected to generate 12 - 35 adds, changes, or removes per busy-hour, depending upon training level and display activity.

Total Authorization Codes (translated) The 4 - 7 digit numbers loaded into switch translations as instances of proc 283, word 1. Up to 90,000 may be assigned per switch for purposes of billing or allowing privileged access to trunks. In general, 10 times the number used is recommended for translation. The total over all Generic 2, System 85, and Dimension FP 8 switches is required for the Manager IV under consideration. Although the same unique set of codes may be ordered for each switch, the total count of records (possibly redundant) over all switches is required. For example, 9,000 unique codes for 7 switches implies a total of 63,000.

Manager IV TERMINALS There are 2 choices for equipping Manager IV agents, the 615 BCT with 513 emulation, or the 730 MTG with capability for 1- 2 sessions and no 513 emulation. The 615 BCT can be used for all applications local to the 3B2-600 or 6386E/33 as well as cut-through to System 75s and the Adjuncts. The 730 MTG can only access the local 3B2-600 or 6386E/33 applications, which can be a mix of Manager IV, Monitor I, and others. The number of simultaneous local plus remote Manager IV users must include the number of simultaneous sessions (1 or 2) intended with the use of 730 MTG terminals. Remote terminals and modems should be noted here but ordered separately.

HARDWARE DETAILS

The on-hand external SCSI disks are required inputs for those customers upgrading from CSM V4. The number of DCMs on hand is used as a guide for the REC when the final order is tallied as a sum of on-hand equipment and some possibly new hardware. Added disks can be requested via these inputs, if switch growth is a factor.

Only 1 9-Track Tape drive is provided for either faster backups, file transfers, or Customer Directory updates.

The Cross-connect hardware choices are either 900 Block (Type 110) or 66 Block. The Cable run footage is either 25 feet to the Wall Field or 10 feet to an Auxiliary cabinet. The cabinet type for modem mountings is selected from the choices: 30-inch (high) data cabinet, 72-inch data cabinet, or Standard Auxiliary cabinet. The default length for EIA cables is 50 feet. Some cables may be ordered in lengths of 12 feet and 25 feet.

UPGRADE & ADDITION ESCALATION RULES

Most upgrade configurations can be handled with the existing DOSS configurators and the Upgrade Input Parameter Worksheet. Some upgrade requests have to be escalated to the Regional Engineers or Custom Systems, where special expertise has to be applied. Parameter sheets must be routed to either Custom Systems, Engineers, or DOSS according to these rules:

Custom Systems Group All requests for Manager IV on switches with Special Development software have to be escalated for a predetermination of Manager IV impact. Manager IV may not function in the presence of some SDs, but most will require a methods solution using VMAAP to administer the SD functions. Most will require added development costs for custom Manager IV software or documentation.

All requests for software beyond TCM or FM must be escalated for pricing impact. The requested co-resident software has to be configured and tested for Manager IV compatibility. In addition, the Services costs for maintenance has to be specified.

Regional Engineers The following classes of upgrade requests must be escalated to the TMC:

- Multiple MGR IVs
- Number Portability
- Upgrade switch release (eg, R2V4--->Generic 2)
- Re-organization of the Numbering Plan (4digits-->5digits)
- Upgrade CSM Release to Manager IV
- Upgrade Purchased Port Capacity
- Add/Remove Nodes in Number-Portability Networks
- Download applications

- Bulk Customer Directory Updates
- RJE or 9-Track Tape processing

DOSS The remainder of requests are eligible for the production configurators within DOSS. Although some requests may require escalation to the TMC because of individual parameter exceptions, most will be handled as if they were new orders. The account team responsibility remains to subtract the on-site equipment from the new configuration to determine the upgrade hardware order.

UPGRADE INFORMATION FORM (UIF)

The Upgrade Information Form must be completed by the Account Team (with the assistance of the customer) and must be at the NCSC at the time of the upgrade. The UIF contains all the information that will be prompted by the actual upgrade steps.

UPGRADE INFORMATION FORM (UIF) --- Page 1 of 3

When completed, this form supplies all the information needed to complete an upgrade: CSM V4 to Manager IV. This form must be completed during the planning stage of an upgrade and must be on-site during the upgrade.

Section A: [All Upgrades]

Complete Section A parts 1 and 2 for all upgrades.

Part 1. Customer Information: Supply the following customer information.

Company Name: _____

Address: _____

_____

_____

Contact: _____

Telephone #: _____

Proposed Upgrade Date: _____

Part 2. Remote Port Access Phone Numbers: Provide the remote port access phone numbers that must be used by the NCSC to perform the upgrade. Two numbers are needed: remote port access numbers for access to the console and terminal on the processor.

Processor	Remote Console Access#	Remote Terminal Access#

Part 3. Sanity Check Information: Supply the necessary information needed for sanity checks.

- **Terminal Change Management:**
  - Range of 1000 extensions for **tcm:report-admin:extension:report** : _____ to _____
  - Set IDs for hardcopy output of the following terminal types:

Terminal Type	Set ID
12-button	_____
36-button	_____
analog	_____

Section B. Upgraded Switches Only

Complete Section B, parts 1 and 2 for switches to be upgraded.

Part 1. New Target Names: Supply the target name(s) for switches to be upgraded.

Notes:

- Use additional sheets if necessary.
- [Number Portability] If one switch is being upgraded or added, all switches in the network must be upgraded.

Targets:	Old Name	New Name*	Targets:	Old Name	New Name*
Switch 1	_____	_____	Switch 3	_____	_____
Switch 2	_____	_____	Switch 4	_____	_____

* New Target Name must differ at least one character from Old Target Name.

Part 2. Product:add Information: Supply the following information for all upgraded switches. Use additional sheets if necessary.

Switch 1:

Database Initialization Start Date _____ (5 working days required)
Product Time Zone_____ Daylight Savings? Y__ N__
Product I.D._____ Product Type _____
Product Location_____ Release _____
Equipment Serial #_____ Version _____
RMATS Port #1 Phone # _____ Issue _____
RMATS Port #2 Phone # _____ Security Code_____
Non-Blocking Indicator N__ E__
Assigned Modules_____
MGR IV Applications TCM___ FM___

Switch 2:

Database Initialization Start Date _____ (5 working days required)
Product Time Zone_____ Daylight Savings? Y__ N__
Product I.D._____ Product Type _____
Product Location_____ Release _____
Equipment Serial #_____ Version _____
RMATS Port #1 Phone # _____ Issue _____
RMATS Port #2 Phone # _____ Security Code_____
Non-Blocking Indicator N__ E__
Assigned Modules_____
MGR IV Applications TCM___ FM___

IMPLEMENTATION TEAM INFORMATION SHEET

The Implementation Team Information Sheet must be completed so that all persons involved in the upgrade will know who to contact if questions or problems arise. It contains the names, addresses, and phone numbers of each person involved in the upgrade.

IMPLEMENTATION TEAM INFORMATION SHEET

TITLE/NAME*	MAILING ADDRESS	PHONE NUMBER
ACCOUNT EXECUTIVE		
SYSTEM CONSULTANT		
SYSTEM MANAGER		
MARKETING SUPPORT SPECIALIST		
RTMC/REC		
SERVICES TECHNICIAN		
SYSTEM ADMINISTRATOR		
TROUBLE REPORTING		

*Indicates project co-managers

APPENDIX B. 6386 UPGRADE

The information contained in this appendix provides you with the necessary procedures and background information to do upgrade from CSM V4 on the 3B2-600 to Manager IV on the 6386 processor.

CSM (3B2-600) TO MANAGER IV (6386) UPGRADE

The preparation and planning for an upgrade of this type is identical to those steps performed for upgrading from CSM to Manager IV on the 3B2-600. This section begins after you have completed the full set of backups via "Procedure: Perform A Full Set of Backups."

Upgrade Steps

The following procedures provide you with the steps to perform an upgrade.

Procedure: Create The Upgrade Environment And Save UNIX And CORE Files

Purpose:

Use this procedure on the 3B2-600 to set up the upgrade environment and save the UNIX and CORE files to tape.

NOTES:

1. UNIX must be left in multi-user mode; however, additional users must be restricted from system use during the upgrade.
2. [Number Portability Networks] Except where explicitly indicated, the steps in this procedure can be used to properly upgrade systems using a Number Portability Network.

Procedure Steps:

1. On the remote terminal, log in as **csmsa**. Then change to the **root** login using the UNIX **su** command.
2. Set up the environment.

   Enter: **. /etc/envlist**
3. Set the terminal variable if necessary.
4. [Switch upgrade only] Check the permissions on the **/work/nswfiles**.

   They should be read | write and executable for everyone. If they are not, change the permissions.

   Enter: **chmod 777 /work/nswfiles**
5. Kill the cron process.

   Obtain the cron process id.

   Enter: **ps -ef | grep cron**

   Kill the process.

   Enter: **kill** *cron process id*

6. Change to the **/work/convert** directory.

   Enter: **cd /work/convert**

7. Create the upgrade environment variable list *envmig*.

   Enter: **migconfig**

8. Execute the **. env.mig** to set up the upgrade environment.

   Enter: **. env.mig**

9. Execute the **v4upgr** script.

   Enter: **v4upgr**

   [Sample] System Response:

```
Reading cust file ...

Found the following target(s):
headquarters:  System 85
kentwood:  Dimension 2000
stow:  System 75

Are any switch upgrades being performed?
Migration pre-conversions complete.
```

10. Indicate whether or not switch upgrades are being performed.

No Switch Upgrades	If there are no switch upgrades, enter: **n** System Response: The system will pause for a few minutes while migration pre-conversions are being performed. When conversions are complete "Migration pre-conversions complete" is displayed. Go to step 9.
Switch Upgrades	If switch upgrades are being performed, enter: **y** **NOTE**: In a Number Portability Network where switch upgrades or the addition of a network node is planned, a complete reinitialization of the entire network is required.

System Response:

```
For each upgradable product, enter the corresponding
NEW ldn, or simply <RETURN> if no upgrade is being done;
Enter NEW idn for headquarters: branches
```

11. [Switch Upgrades Only] Enter the Product IDs for switches being upgraded.

    NOTE: NEW target names must be named differently from the original target names.

    System Response: When all new targets have been entered, the script will automatically put the user into the non-switch-data retrieve for the first new target.

    [Number Portability networks (NP)] If an NP network is present the script will perform functions to make the original NP network appear as an ordinary multi-node configuration so that the remainder

of the step can execute. Add the Number Portability Network ID (NPID) when adding the new targets into the database.

The system will automatically retrieve nonswitch data for upgrade targets.

System Response:

```
Creating alias file record for "branches" ...
Alias file record created successfully.

Performing non-switch-data retrieve for "headquarters"

      Retrieve non-switch data to CSM database?:  y
      Is this for a switch UPGRADE:  y

      UPGRADE retrieve selected! - Enter NEW target: branches

      Choose either the ALL option or one or more of the following:

                x  Select ALL
                   Extension user
                   User
                   Wiring
                   Locales
                   WATS Trunks
                   CO/FX/DID/APLT Trunks
                   Tie Trunks
                   Set Attributes
```

The ALL option retrieves the data from each switch automatically.

NOTES: The system will pause for a few minutes while migration pre-conversions are being performed. When conversions are completed, "Migration pre-conversions complete" is displayed.

The targets that are to be upgraded have been assembled into a file which will be loaded on to the new processor after upgrade to Manager IV. Remember that these switches must be added to the database during the installation phase of upgrades (later on in this process) using the "Procedure: Add a Manager IV Supported Product" or "Procedure: Add Cut-through Access To a Product" in *Manager IV Installation, Initialization, and Maintenance* .

12. Save the UNIX flat files.

    Insert a tape in the tape drive.

    Set and export the tape variable.

    Enter: **TAPE=/dev/rmt/qtape1;export TAPE**

    Enter: **savev4**

[Sample] System Response:

```
Please mount a fresh tape on the tape drive
Ready ? (y or n) y
The tape drive is ready.

Listing work/convert files.
Listing work/nswfiles files.
Listing work/delta files.
Creating cpio archive for cop login.
1 blocks
Removing "cop" directory.
Completed archive for cop.
```

At this point, the system continues to archive the remaining UNIX flat files and will return the success message to the screen upon completion.

```
The UNIX file save has completed successfully.
Remove tape from the tape drive and label as "UPGRADE UNIX FILES"
```

13. Save the CORE files.

Mount a new tape on the tape drive and follow the screen instructions.

```
Please mount a fresh tape on the tape drive
Ready ? (y or n) y
The tape drive is ready.
```

After entering the **y** the system begins the task of dumping the FM and TCM CORE files on the system to the new tape. The following screen is a sample of the type of output you should expect.

```
DUMPING FILE tenant ...
SUCCESSFULLY DUMPED 2087 RECORDS.
LEAPSED TIME: 25.47 SECS. CPU TIME: 13.85 SECS.

DUMPING FILE ap ...
SUCCESSFULLY DUMPED 4 RECORDS.
ELAPSED TIME: 0.10 SECS. CPU TIME: 0.05 SECS

*** DUMP COMPLETED ***
```

At this point all the necessary data that is needed from the current database for upgrade to Manager IV has been saved to tape.

The next step in the upgrade sequence is the installation of UNIX 3.2.2. software and Manager IV software.

END OF PROCEDURE

Procedure: Load UNIX 3.2.2 and Manager IV Software

Purpose: This procedure provides you with information regarding the installation of UNIX 3.2.2 and Manager IV on the processor.

Background:

The new software has specific memory requirements that differ from the current CSM V4 configuration. These memory requirements necessitate the installation of UNIX 3.2.2 software even if the current system is already running the correct release.

The Manager IV software must also be loaded before the information obtained from the current CSM V4 system can be added to the database.

Procedure Step:

1. See the installation sections (1 through 4) of *Manager IV Installation, Initialization, and Maintenance*. In addition, see "Installing UNIX On THE 6386" in "APPENDIX D. Field Service Installation Tasks" of the same manual.
2. Load the UNIX utilities on the 6386 processor. Refer to the *AT&T UNIX System V/6386 Release 3.2.2 User's/System Administrator's Guide* for specific information.

END OF PROCEDURE

Procedure: Add User Information

Purpose:

The purpose of this procedure is to provide you with the necessary information for adding user logins.

Background:

There are two steps involved in adding a user login. The login must be present in both the **/etc/passwd** file and the **$SYSROOT/work/tables/userlist**. If the login is missing from either the **userlist** or **passwd** file an error will result when loading the CORE files.

Prerequisites:

Installation of UNIX 3.2.2 and Manager IV must be complete before performing this procedure. See the installation sections of *Manager IV Installation, Initialization, and Maintenance* if necessary.

Procedure Step:

1. Administer uucp.

   In order to recreate the same uucp configuration as the CSM V4 use the **/usr/lib/uucp/**(Permissions, Devices, and System) files saved during the upgrade preparation as a guide for administering uucp.

2. Administer user's line printers.

   In order to recreate the same user printer information use the data from the **/etc/inittab** file saved before the upgrade.

3. Add users.

   Refer to "Procedure: Add a Login to UNIX" and "Add a Login to Manager IV" in *Manager IV System Administration* for specific steps.

   NOTE: It is recommended that you have a hardcopy of the **/etc/passwd** file previously obtained to use as a reference when adding users.

END OF PROCEDURE

Procedure: Load UNIX and CORE Files

Purpose:

This procedure provides you with the steps for loading UNIX flat and CORE files obtained from the CSM V4 system.

Procedure Steps:

1. On the remote terminal, log in as **smsa**. Then change to the **root** login using the UNIX **su** command.
2. Set up the environment.

   Enter: **. /etc/envlist**
3. Change to the **$SYSROOT/work/convert** directory.

   Enter: **cd $CONVERT**
4. Create the upgrade environment variable list *envmig*.

   Enter: **migconfig**
5. Execute the **. env.mig** to set up the upgrade environment.

   Enter: **. env.mig**
6. Load the UNIX flat files.

   Mount the tape containing the UNIX files on the tape drive.

   Set and export the tape variable.

   Enter: **ls -l /dev/rmt**.

   Identify the tape drive ID (usually the first item of the listing) and link it with the name *qtape1*.

   Enter: **l***n* **/dev/rmt/***tape* **/dev/rmt/qtape1**
   where *n* = the numbers from the first item of the device listing (above)

   tape = the tape drive name obtained from the above listing.

Enter: **TAPE=/dev/rmt/qtape1;export TAPE**

Execute the **loadmgr4** module.

Enter: **loadmgr4**

Follow the screen's instructions.

System Response:

```
Please mount tape containing Unix files on the tape drive
Ready ? (y or n)  y
```

At this point the system begins loading the UNIX flat files.

[Sample] System Response:

```
work/convert/corpid
work/convert/numbport
work/covert/targs.noup
work/convert/targs.upgr
work/convert/targs.pbx
work/nswfiles
work/nswfiles/cINIT2
work/nswfiles/eINIT2
work/nswfiles/nresults
        .
        .
        .
work/nswfiles/cA2switch
work/nswfiles/cA2switch/0
work/dbdata/table
        .
        .
        .
work/dbdata/table/dummy
work/archive.up
work/archive.up/ail
        .
        .
        .
Expanding archive for "ail"...
2220 blocks
 .
Expanding archive for "smdba"...
 .
 scrap
 .product
TEST

Unix files have been restored successfully.
```

NOTES: The above output is captured in *unix.inPID*.
where *PID* = the UNIX process id.

If the following message is encountered during the CORE file load, it means that the login has not been added to the **/etc/passwd/** file and/or the **$SYSROOT/work/tables/userlist**.

You can let the load continue, but note the logins in question and go to "Procedure: Add User Information" and "Error Case 1: Missing User Information."

```
WARNING: login not added in the /etc/passwd and/or  $SYSROOT/work/
tables/userlist.
Archive for "login" will be preserved in  $SYSROOT/work/archive.up/ login.
Refer to documentation for extracting files.
```

After the UNIX files have been restored, you can begin the process of loading the CORE files.

7. Load the CORE files.

Mount the tape containing the CORE files on the tape drive.

Follow the screen's instructions.

```
Please mount tape containing CORE files on the tape drive
Ready ? (y or n) y
```

At this point the system begins the loading process.

```
LOADING FILE tenant ...
SUCCESSFULLY LOADED 2087 RECORDS.
ELAPSED TIME: 25.47 SECS. CPU TIME: 13.38 SECS

LOADING FILE ap ...
SUCCESSFULLY DUMPED 4 RECORDS.
ELAPSED TIME: 0.10 SECS. CPU TIME: 0.05 SECS
       .
       .
       .

*** LOAD COMPLETED ***
```

At this point the system begins executing the five database conversions.

NOTE: All the output from the UNIX flat file load and CORE is captured in the file mgr4.out *PID*.
where *PID* = the UNIX process id

```
Performing Adjunct product type conversion...
Reading cust file ...

Changing nyc to type "AP" and ctpe "ADJUNCT" ...
Changing hqa to type "AP" and ctpe "ADJUNCT" ...
       .
       .
       .
Changing sd to type "AP" and ctpe "ADJUNCT" ...

Performing ctpe conversions on SYS85 or DIM type switches ...
Changing cdc to ctpe "SYS85" ...
Changing hqa to ctpe "SYS85" ...

Performing product port conversion ...
Reading cust file ...

Removing () from port number for nyc ...

Removing () from port number for hqa ...

Removing () from port number for chiaud ...

Converting "smcmp" field in cust records to remove TM and CM ...

Removing "etnid" field from corporation record ...

LOADMGR4 STEP COMPLETE
```

Use the following table to determine where to proceed from this point.

If	Then
You are upgrading switches or adding switches	• Go to "Procedure: Initialize Switches"
You are not upgrading switches or adding switches	• Perform upgrade sanity checks explained in Section 6.

END OF PROCEDURE

Error Case 1: Missing User Information

Purpose:

Use this procedure to link users to their respective user information.

Background:

This function is "normally" performed by the system. If, however, a user has not been added to the **/etc/passwd** and the **$SYSROOT/work/tables/userlist** before loading the CORE files the user information must be linked manually.

Prerequisites:

The user must first be added to the **etc/passwd** and the **$SYSROOT/work/tables/userlist** before the information can be linked. See "Procedure: Add a Login to UNIX" and "Procedure: Add a Login to Manager IV" in *Manager IV System Administration* for specific steps and information.

Procedure Steps:

1. Log in as root.
2. Move to the directory holding the archived user information.

   Enter: **cd $SYSROOT/work/archive.up**
3. Link the user information to the desired login.

   Enter: **su** *login* **-c "cpio -ivdum** /*loginhome*/smgr < *v4login*"

   where *login* = the login name that has been added to the **/etc/passwd** and the Manager IV database.

   loginhome = the home directory of the login on the new Manager IV system.

   v4login = the name that the login had on the old CSM V4 system.

END OF PROCEDURE

Procedure: Initialize Switches

For each switch that was upgraded or any additional switches being added at upgrade time, initialization procedures must be run.

[Number Portability Networks] If one or more switches were upgraded in a Number Portability (NP) Network, the entire network must be reinitialized. Perform the **init setup** transaction for at least two nodes before creating the NP Network. Use the procedures listed in Section 5 of *Manager IV Installation, Initialization, and Maintenance*. Procedures include:

- Adding the product
- Loading the TRACS tape
- Initialization Setup
- Defining Switch Hardware
- [Number Portability Networks only] Creating a Number Portability Network
- Starting Initialization
- Monitoring Initialization
- Locating Initialization Results
- [Number Portability Networks only] Deleting Number Portability Network File

After completing the switch initialization procedures, nonswitch data for each upgraded switch must be retrieved, using **system-administration non-switch data add**.

When multiple switch initializations are being performed, the following steps must be performed after each switch initialization.

- Perform a CORE backup
- Start up Manager IV

Make sure all the procedures above have been completed.

The upgrade is complete. Reboot the new processor and proceed to the Sanity Checks in Section 6 of this manual.

END OF PROCEDURE

APPENDIX C. HOOKUPS FOR PERIPHERALS TO 3B2 COMPUTER

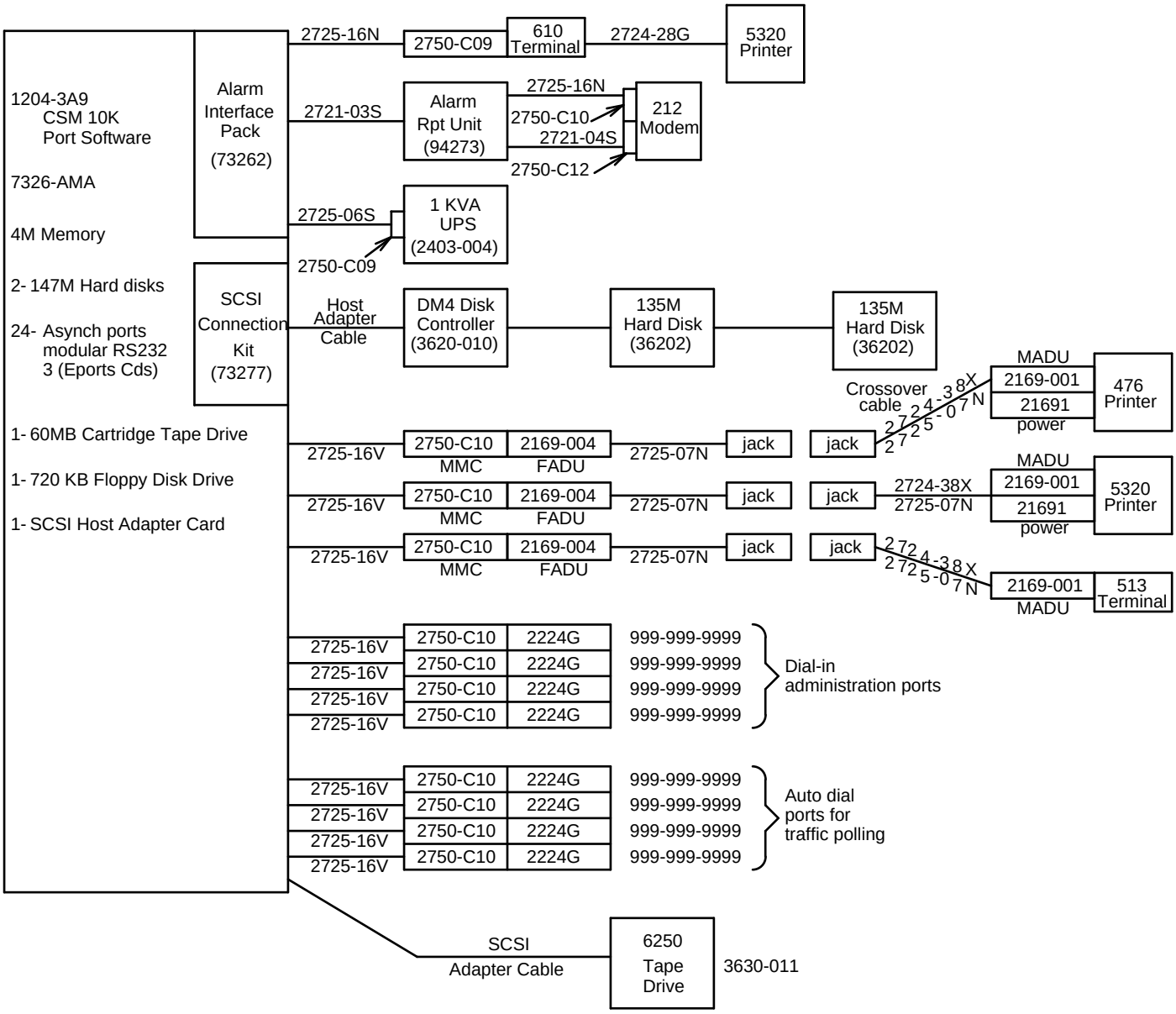

Diagram C-1

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