Critical Release Notice

Publication number: 297-8991-304
Publication release: Standard 04.11

The content of this customer NTP supports the SN06 (DMS) and ISN06 (TDM) software releases.

Bookmarks used in this NTP highlight the changes between the baseline NTP and the current release. The bookmarks provided are color-coded to identify release-specific content changes. NTP volumes that do not contain bookmarks indicate that the baseline NTP remains unchanged and is valid for the current release.

Bookmark Color Legend

Black: Applies to new or modified content for the baseline NTP that is valid through the current release.

Red: Applies to new or modified content for NA017/ISN04 (TDM) that is valid through the current release.

Blue: Applies to new or modified content for NA018 (SN05 DMS)/ISN05 (TDM) that is valid through the current release.

Green: Applies to new or modified content for SN06 (DMS)/ISN06 (TDM) that is valid through the current release.

Attention!
Adobe® Acrobat® Reader™ 5.0 is required to view bookmarks in color.

Publication History

March 2004

Standard release 04.11 for software release SN06 (DMS) and ISN06 (TDM).

Change of phone number from 1-800-684-2273 to 1-877-662-5669, Option 4 + 1.

297-8991-304

DMS–100 Family

Global Software Delivery

One Night Process SuperNode SE to SuperNode Conversion

Base09 Preliminary 4.10 May 1, 2002

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

NORTEL NETWORKS
How the world shares ideas.

DMS-100 Family

Global Software Delivery

One Night Process SNSE to SuperNode Conversion

Publication number: NTP 297-8991-304
Document status: Preliminary
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May 1, 2002

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Preliminary Release. Up issued to 4.09 to include updates from September and October 2001 RTP and RICH applications.

September 14, 2001

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
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September 4, 2001

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary Release. Up issued to 4.07 to include updates from August 2001 RTP and RICH-GSM applications. Added check logs step to the SN Dump and Restore procedure, added check logs step to PRESWACT procedure, added check logs step in Conversion to SuperNode procedures, updated the Revert to SNSE procedures section, revised the SDM billing procedure in Appendix E, and revised FP billing procedures in Appendix F.

August 9, 2001

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary Release. Up issued to 4.06 to include updates from July 2001 RTP and RICH applications. Moved "Prepare PMs for Cutover" procedure to PRESWACT section. Revised Dry Run Process in Appendix D.

July 9, 2001

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary Release. Up issued to 4.05 to include changes and corrections from May and June 2001 RTP and RICH applications.

June 18, 2001

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary Release. Up issued to 4.04 to add Appendix E for SuperNode Data

Manager Procedure and Appendix F for File Processor Cutover Procedure, and made other revisions and corrections.

May 11, 2001

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary Release. Up issued to 4.03 to include preliminary procedures for the CM/SLM to XA-Core Conversion process.

April 2, 2001

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary Release. Updated to include section "Dry Run Process" and Appendix D "Dry Run Process Guideline."

March 9, 2001

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary Release. Up issued to 04.02 to include changes and corrections from February 2001 RTP applications.

February 4, 2001

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary Release. Updated to version 04.01 to include procedures for the XA-Core platform.

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297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary Release. Up issued to 03.01 to revise overall document format, update Site Preparation sections, include additional automated process updates, and updates to the Appendices.

September 8, 2000

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary "Draft" Release. Updated to version 03.00 to include SSLPP (Single Shelf LPP) procedures.

September 8, 1999

297-8991-304 *One Night Process SNSE to SuperNode Conversion*
Preliminary Release. Updated to version 02.00 to include automated process updates and for the Gate 2 release.

June 29, 1999

Up issued to 01.10 to include updates from 6/15/98 RCH trials.

February 16, 1998

Up issued to 01.09 to include steps to allow two-night process.

June 4, 1997

Up issued to 01.08 to include additional steps to "ACTDUMP" SN tables and to matecopy installer files.

May 6, 1997

Up issued to 01.07 to include additional MOP changes in PRESWACT and SWACT/POSTSWACT sections.

April 18, 1997

Up issued to 01.06 to include process updates, revised instructions for migrating LIMs from SNSE to SN without referencing IM 78-5144.

March 18, 1997

Up issued to 01.05 to include process updates.

November 20, 1996

Up issued to 01.04 to reference document ONP LPP Activity (IM 78-5144).

October 7, 1996

Preliminary Issue 01.03, first use of new NTP number.

July 10, 1996

Preliminary Issue 01.02

May 13, 1996

ONP SNSE to SuperNode/ENET Conversion, DRAFT Issue 01.01

Contents

1 About This Document

This document is *global* and is for use by customers of Nortel Networks in all parts of the world. The *One Night Process SuperNode SE to SuperNode Conversion* procedure is applicable when converting a DMS SuperNode SE (SNSE) to full DMS SuperNode (SN), including offices provisioned with XA-Core. The Method of Procedure (MOP) included in this document utilizes standard One Night Process (ONP) software delivery tools and methods.

This document supports a software application only for a SNSE to SuperNode Conversion that meet the following requirements:

Supported

- Same-to-same PCL software levels.
- Core currently operating on a CSP08/Base09 platform PCL (for example LEC0008) or higher. Support for the XA-Core computing platform begins with CSP13.
- DMS SuperNode SE (CM/SLM) to SuperNode (CM/SLM)
- DMS SuperNode SE (XA-Core) to SuperNode (XA-Core)
- DMS SuperNode SE (CM/SLM) to SuperNode (XA-Core)
- DMS SuperNode SE (SNSE) 16K ENET/LIS converting to a full SuperNode ENET/LPP.
- Like-to-like link interface equipment upgrades, for example SNSE-LPP to SN-LPP *or* SNSE-SSLPP to SN-SSLPP. SNSE-LIS to SN-LPP (or SSLPP) is supported as a two step process.
- LPP to LPP upgrade (limited to maximum of 3 LPPs).
- Combined network upgrade from JNET to JNET
- Combined network upgrade from JNET *or* ENET to ENET.

Not Supported

- SNSE with 32K ENET
- Upgrade from 3 LPPs and LIS/FLIS to 3 LPPs and LIS/FLIS.

1.1 How this document is organized.

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

The *Introduction* chapter briefly describes how the SuperNode SE to SuperNode software application and conversion works. It also explains the use of the Method of Procedure (MOP) sections in performing a software delivery. At the end of the chapter is a list of general precautions.

The *Site Preparation Overview* section provides a brief overview of Telco/Carrier administrative and site responsibilities. This includes important planning and pre-conversion information.

This is followed by the *ONP SNSE to SN Conversion MOP* section, which contains detailed procedure modules with steps to prepare for and deliver the new software load. Procedures to Revert to the old load are also included.

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

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

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

Appendix D: Dry Run Process Guideline provides instructions for performing a Dry Run on an office that is preparing for a SNSE to SN conversion. The guideline must be used in conjunction with the procedures in this document.

Appendix E: SuperNode Data Manager Procedure details steps to be taken when applications are in use on a SDM during a SNSE to SN Conversion.

Appendix F: File Processor Cutover Procedure details steps to be taken when billing is routed to an FP device during a SNSE to SN Conversion.

1.2 Related documents

The Nortel Networks *Installation Method* (IM) documents specify Installation tasks that must be completed prior to and during the SNSE to SuperNode Conversion. Depending on the type of Conversion being performed, on of the following IM planning guides will apply:

- IM 02-5145 *SuperNode SE to SuperNode ENET Upgrade Planning*
- IM 02-0866 *SuperNode SE to SuperNode JNET Upgrade Planning*
- IM 02-6180 *SuperNode SE to SuperNode XA-Core Upgrade Planning*
- IM 02-0930 *SuperNode SE CM/SLM to SuperNode XA-Core Upgrade Planning*

Each planning guide contains an overview of the Conversion and a checklist of activities that must be completed and confirmed by Nortel Networks Installation and Operating Company representatives. These documents also list all the Installation Methods pertaining to the Conversion.

During the SNSE to SuperNode Conversion, Nortel Networks Installation will have available the appropriate Cutover IM documents for migrating the LIM from SNSE to SN. Parallel instructions are included in the PRESWACT and POSTSWACT sections of this MOP.

1.3 Submitting feedback

Comments and suggestions about this document can be submitted by way of the Nortel Networks CSR process. The Global Software Delivery Organization must approve any change made to the contents of this document.

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2 Introduction

2.1 About the SNSE to SuperNode Conversion

This Method of Procedure (MOP) details the steps necessary to perform hardware and software modifications required for a SuperNode SE (SNSE) to SuperNode (SN) conversion using the One Night Process (ONP) software delivery methods. The procedures contained in this document utilize the ONP software delivery tools and program modules to perform the front-end hardware and software conversion.

The events of the ONP can be divided into two main phases. The first phase is the data transfer using TABXFR. It includes the table data move functions sometimes referred to as *Dump and Restore*. For a Conversion, the TABXFR Retrofit tools will be used which are available on the Installation Commissioning Tools tape. The second phase is the software delivery application using BCSUPDATE, which includes all the required application functions needed to activate the new software. The activation of the new software load on the SuperNode occurs with a Switch of Activity (SWACT), also called the *Cutover*. BCSUPDATE executes the PRESWACT and POSTSWACT steps. The hardware "cutover" from the SNSE to the new SuperNode occurs simultaneously with the front end SWACT.

Typically, the Dump and Restore phase can be performed during the day previous to the evening of the scheduled Conversion. When this phase begins an office *data freeze* will go into effect. This mandates certain Data Modification Order (DMO) restrictions that must remain in effect throughout the ONP. After completion of the Dump and Restore phase, the remainder of the software delivery application (and cutover) can be completed. The data freeze ends after the SWACT to the new SuperNode. The Dump and Restore phase and the Cutover phase will generally require two working sessions of approximately 8 to 10 hours each and for this reason the Conversion should be scheduled to begin at least 16 hours prior to the designated time of Cutover.

2.2 Using the MOP

In this document the procedures required for each phase are group into sections. In each section, numbered procedures contain various steps necessary to complete the required phase. When using the MOP, first verify you are using the proper section. Then perform all procedures in the order given. In most cases, the timeframe and responsibility for performing a procedure are indicated at the start of each section.

Throughout the document the term "Installer" refers to a Nortel Networks Installation Engineer or Field Technician at the DMS site. The term “Applicator” means the Software Delivery Engineer who is certified to perform the conversion from SNSE to SuperNode (usually by way of remote dial-up). The term “Site” refers to Telephone/Carrier or Operating Company personnel on site who can assist Nortel Networks during the conversion. The terms “conversion” and “retrofit” are often used interchangeably, as are the terms “application” and “cutover.”

Note: Throughout this document the term “to_PCL” refers to the PCL level of the new software load on the SuperNode; and “from_PCL” refers to the old (or current) PCL level on the SNSE.

The term “Test Call Scripts” refers to the verification calls as predefined by the Telephone/Carrier Operating Company. These are test calls to be performed before *and* after activating the new software load in order to determine acceptance of the new load and operation of the SuperNode.

2.3 General precautions

Notice that the following precautions are subject to change throughout the conversion process. In addition, certain procedures may be changed during process development. Therefore, subsequent issues of the *One Night Process SuperNode SE to SuperNode Conversion* will be re-issued as needed as development progresses.

- Personnel responsible for performing any of the steps in this MOP must be thoroughly familiar with the complete procedure before starting it.
- Installation personnel will work with the Applicator at key points during the procedure to perform Installation tasks.
- Hardware problems are contributors to conversion aborts and reschedules; therefore, particular attention should be made to testing all memory cards and to monitoring CM and MS logs prior to the SNSE to SuperNode conversion.
- It is recommended that site personnel responsible for assisting Nortel Networks should review all sections of this document to ensure designated activities will be completed prior to or during the SNSE to SuperNode conversion process.

3 Site preparation overview

This section describes the site preparation tasks require to prepare the DMS for a front-end conversion from the SNSE-to-SuperNode. The detailed procedures to be performed by on-site personnel are provided in the next section under *Site preparation procedures*.

3.1 Time-line of events

The following information provides the site with a summary of activities that will be performed prior to the SuperNode conversion. Personnel involved in the preparation, or the conversion process, or both, must be thoroughly familiar with this section.

Nortel Networks recommends that the actual conversion to SuperNode be scheduled to take place during low traffic periods to minimize any undesirable impact to the office.

3.1.1 Timeline overview

All references to days indicate the number of calendar days prior to the conversion from the SNSE to the SuperNode (IS date).

Table A — Process timeline

Days before the Conversion	Site Preparation Activity
Determined by telephone co.	• Administrative functions (notification to operator services, control centers, repair service bureaus, etc.)
35 to 12 days to conversion	• First tape and documentation shipment arrives at site • Site starts checking CM logs daily • Begin verifying peripherals with latest PM loads

—continued—

Table A — Process timeline (continued)

Days before the Conversion	Site Preparation Activity
30 days	• Begin data consistency checks (TABAUDIT).
15 days	• Ensure all needed hardware is installed and verified. • Perform SNSE and SuperNode memory retention tests. • Perform CPU routine exerciser (REX) tests. • Perform SNSE and SuperNode processor stability tests.
10 days	• Preliminary Site Ready checks performed. • Nortel Networks Patch Delivery downloads ONP process patches to SNSE. These must be applied to the SNSE prior to the Dump and Restore.
7-4 days	• Copy all SNSE and SuperNode files in SFDEV to backup tape. • Monitor SNSE and SuperNode CM/MS logs through conversion day. • If office is equipped with disk drive units (DDUs), on PMLOAD disks, erase all unwanted and unneeded disk files. Ensure latest PM loads and XPM patches are restored to proper disk volumes. • Site receives final PCL tape and documentation shipment.
6 days	• Verify PMs and XPMs are loaded, patched and working. • Verify dial-ups for SNSE and SuperNode. • Verify SFDEV files are copied to tape for backup. • Ensure all Load tapes and Tools tapes are on-site. • Verify site is familiar with the ONP procedures.
5-3 days	• Perform Dry Run Process • Resolve issues identified by Dry Run.

—continued—

Table A — Process timeline (continued)

Days before the Conversion	Site Preparation Activity
3 to 2 days	• Verify site has prepared test calls. • Obtain name of site representative with authority to decide in case of an ABORT. • Verify patches will be down-loaded by Nortel patch department. • Review all ONP documentation. • Assure all (Site Prep & Installation) checklists are completed. • Final Site Ready checks performed.
Day of conversion	• Dump office images (SNSE & SuperNode) and backup to tape. • Perform office data dump (hardcopy of office data) on SNSE. • Office Data Freeze begins and remains in effect until after Cutover. • Applicator dials in at pre-arranged start time to begin D/R phase. • Applicator loads Conversion Process modules on SNSE & SN. • Applicator loads SuperNode with undatafilled (UDF) image. • Applicator performs data move from SNSE to SuperNode.
Night of Cutover	• Software Delivery Application phase begins. • Applicator dials in at pre-arranged start time to begin PRESWACT. • Applicator and Site Installer perform Pre-Cutover Link Move. • H/W Cutover occurs simultaneously with the Software Delivery Application Switch of Activity (SWACT). • Post Cutover activities performed and ONP Conversion completed.

Table B — Conversion activities

NODE (front-end)	Conversion Activity
SNSE	Preliminary set-up and login
SN	Load new undatafilled image on the SuperNode
SNSE	Dump procedure on the SNSE
SN	Restore procedure on the SuperNode
SNSE	Pre-conversion on the SNSE
SN	Pre-conversion on the SuperNode
SNSE and SN	Conversion (switch of activity) to the SuperNode
SN	Post-conversion activities

3.2 Planning activities

A successful conversion to SuperNode will require certain activities to be performed before the ONP. This section provides a brief overview of the site preparation activities that must take place before the ONP. Other activities not listed in this section must be approved by and coordinated through appropriate Nortel Networks customer representatives. Office personnel should review the following information as soon as this document is received.

3.2.1 Administrative functions

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

- In offices equipped with TOPS-OC (Operator Centralization), please refer to feature NC0152 (Host/Remote Networking by Queue Type) in the *Translation Guides*. This feature describes the PCL software delivery strategy for TOPS-OC offices.
- Pre-application activities will include ensuring all peripherals (including remotes) are loaded and patched with PM loads compatible with the PCL loaded on the new SuperNode.
- In order to minimize the impact on an office, Nortel Networks recommends the ONP be performed within the Operating Company's "maintenance window" and time of cutover to the new SuperNode be scheduled to occur during low traffic periods. Specific Operating Company policies should be used to establish the estimated time of cutover.
- Advanced notification of the software delivery conversion must be provided by the site personnel to the Operating Company control centers, operator services, and other organizations that could be affected during the ONP.
- Advise the data transferal regional coordinator (or equivalent) when the software delivery update will occur.
- Offices equipped with Centralized Automatic Message Accounting (CAMA) or Local Automatic Message Accounting (LAMA) will arrange for the validation of an Automatic Message Accounting (AMA) test tape with the site billing center. Such testing may also include Station Message Detail Accounting (SMDR) or Other Common Carrier (OCC). The site billing center must be informed of this requirement four weeks prior to the software update. This test should be performed during POSTSWACT activities (execution of Test Call Scripts). Ensure that the *AMADUMP User's Guide* (NTP 29C-1001-119) is readily available.

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

3.2.2 Warnings

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

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

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

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

Ensure no additional peripheral hardware or software changes, including retrofits, extensions, or maintenance activities, will be in progress during the SNSE to SuperNode Conversion. These activities are prohibited during the software delivery Application and Cutover phases. Any affected hardware must be made INB (installation busy), and any further software changes must cease. Such activities would include, *but are not restricted to,* any of the following:

- Network extensions
- Memory extensions
- Peripheral additions or deletions

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

3.2.3 Conversion hardware requirements

- Foreign exchange dial-ups into both the SNSE and SuperNode.

- New SuperNode front-end installed and commissioned for service.
- Master and remote switch boxes installed and tested.

3.2.4 Special activities

The Operating Company may request special changes to office data, which must be done separately from the SNSE to SuperNode Conversion. These requests must be identified ahead-of-time and the job scheduled separately. Such activities, sometimes referred to as Software Delivery Data Services, can include *but are not restricted to*, any of the following:

- Deleting entries in table LINEATTR.*
- Peripheral renaming and/or renumbering.
- Changing or deleting remote site names.

*no longer required from NA011 or higher

For more information concerning Software Delivery Data Services, please contact your Nortel Networks regional customer representative.

3.3 Pre-application activities

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

- First shipment of ONP tapes and documentation to the site
- Site polling by Nortel Networks to obtain specific switch information
- Site preparation procedures
- TABAUDIT procedure
- Final shipment of ONP tapes and documentation to site
- Site ready checks
- SNSE to SuperNode Conversion Dry Run
- Site responsibilities the day of the software upgrade

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

3.4 Cancellations or reschedules

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

4 Site preparation phase

Begin with this section when the first shipment of ONP tapes and documentation arrives on site (shipped approximately 35 days before the ONP).

Note that some procedures detailed in this document parallel those found in various Nortel Networks Installation Methods. This document is intended to work in conjunction with the Installation Method and should not conflict with the IM procedures.

4.1 Site preparation procedures

Site personnel should become familiar with all of the site preparation procedures before proceeding. In order to qualify the office for a software delivery conversion, the procedures listed in the "Site Preparation Checklist" in this document (below) and the "Pre-Cutover Checklist" found in the Installation Method 02-5145 must be completed by the intervals listed.

Note: Failure to complete both checklists by the intervals listed will place the cutover date in jeopardy.

CAUTION

Applying the following types of patches within 30 days of the scheduled conversion must be considered a gating issue to the ONP:

Active (ACT) patch applied and activated
Limited (LTD) status patch
Verification (VO) status patch

If any of the above patches are applied to the office within 30 days of the ONP, immediately contact your Nortel Networks regional customer representative or call the Software Delivery Hotline for your region.

ATTENTION

Except where indicated, the Site Preparation procedures will be performed on the SuperNode SE (SNSE) switch.

4.2 Site Preparation Checklist

This checklist is provided to help assure that all site preparation steps have been completed. Please read the entire document before proceeding with the checklist. The completion intervals listed throughout this document should be observed to assure the cutover date. It is required that the Customer Representative and the Nortel Networks Installation Representative confirm that each step is completed.

Proc	Description	Date Complete	NT	Site
3.3.1	Verify ONP tapes			
3.3.2	Verify PM loading and patching			
3.3.3	Take image SNSE			
3.3.4	Route System logs			
3.3.5	Processor tests SNSE			
3.3.6	Installer loads SuperNode with UDF Image			
3.3.6	Processor tests SuperNode (with Installer)			
3.3.7	Clean up SFDEV			
3.3.8	Verify Table OCGRP			
3.3.9	Table ACDGRP			
3.3.10	Fill in Test Call Scripts			
3.3.11	Site Ready DMS Maintenance Tool			
4.1.1	TABAUDIT Procedure			
4.1.1	Review table data and check results			
5.1.1	Restore CM and MS loads			
5.1.2	Preload Message Switch			
6.0	Dry Run Process			
7.1.1	Day zero checklist			
7.1.2	Run DATADUMP			
7.1.3	FX switch access			
7.1.4	Network management control			

4.3 Procedure

4.3.1 Procedure 1 – Verify ONP tapes

1 **Site** The Operating Company is encouraged to verify the new software load tapes received from Nortel Networks.

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

a. INSERT and LIST each tape.

```
> DISKUT
> IT <device_name>
```

where <device_name> is S00T or S01T (for SLM tape).
where <device_name> is F02UTAPE or F17UTAPE (for XA-Core tape).

b. Verify the tape is good.

```
>LF <device_name>
```

Go to step 2 if the tape lists without error.

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

```
> ET <device_name>
```

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

---

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

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

—continued—

4.3.2 Procedure 2 – Verify PM loading and patching

1 **Site** Verify all peripheral modules (including DPPs) are loaded and patched with PM software that is compatible with the new SuperNode PCL software (refer to the appropriate *Peripheral Module Software Release Document*).

Note: Peripheral modules include all PMs, XPMs, DPP, MPC, and the various application processors associated with a DMS-SCP/STP/SSP such as the LPP (including LIMs and ASUs) and the FP.

2 Ensure the PM loads and patches are copied onto the appropriate PMLOAD disk volumes. If necessary, clear more disk space by erasing unwanted files.

CAUTION
PM loads and their corresponding PM patches must reside on the same disk volume
This is a requirement for Auto Patching to work.

Note: Use the PMLOAD volumes that are normally used for loading and patching peripherals (For example, for SL100 the Series II PM loads and patches are placed on separate disk volumes than the Series III PM loads and patches).

4.3.3 Procedure 3 – Take image SNSE

CAUTION

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

1 **Site** Make sure enough space is available on the disk volume to put another office image. Go into Diskut to list the volume, ERASE the oldest image, and quit out of Diskut.

```
> DISKUT
> LV
> LF <volume_name>
> DDF <file_name>

> QUIT
```

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

---

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

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

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

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

---

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

4.3.4 Procedure 4 - Route system logs

The following system logs should be monitored during the Site Preparation phase to ensure front end stability on both SNSE and the SuperNode:

For CM/SLM:

CM — Computing Module

MS — Message Switch

MM — Mismatches

SLM — System Load Module

For XA-Core:

XAC — XA-Core

MS — Message Switch

MM — Mismatches

SYSLOG — System Logs

ISYSLOG — Inactive System Logs

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

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

```
> LOGUTIL
> LISTREPS SPECIAL
```

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

```
> RESUME <log>
```

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

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

```
> THRESHOLD 0 <log>
```

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

---

2 **ACT** Route the logs to a printer device.

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

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

```
> ADDREP <printer> <log>
```

Do this for each log if necessary.

---

3 **ACT** Start the printer device.

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

```
> LEAVE
```

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

4.3.5 Procedure 5 - Processor tests SNSE

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

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

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

---

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

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

---

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

```
> DPSYNC
> YES                                                    {for confirmation}
```

---

4 **INACT** Wait for the inactive CPU to initialize and return to flashing A1.

---

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

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

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

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

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

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

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

—continued—

Procedure 5
Processor tests SNSE (continued)

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

```
> MEMORY;TST ALL LONG
```

This test will take up to 15 minutes to test each memory card.

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

```
> QUIT
```

---

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

---

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

```
> SYNC
```

---

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

---

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

```
> SWACT
```

---

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

---

12 Verify the CPUs remain in SYNC.

---

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

```
> MEMORY;MATCH ALL
```

```
> QUIT
```

---

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

```
> REXTST FULL
```

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

CPU SYNC, Message Controller (MC), and Subsystem Clock (SSC) states will change. The SuperNode will be out of SYNC for at least 60 minutes.

—continued—

Procedure 5
Processor tests SNSE (continued)

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

```
> QUERYCM REXRESULT
```

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

---

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

```
> CMMNT
> IMAGE
> QUIT
```

---

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

---

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

```
> MS;BSY <x>
```

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

---

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

```
> TST <x>
```

---

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

---

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

```
> RTS <x>
```

---

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

---

23 **ACT** Switch MS clock mastership.

```
> SWMAST
```

---

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

—continued—

Procedure 5
Processor tests SNSE (continued)

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

---

26 **ACT** > QUIT ALL

---

27 Continue to monitor front-end stability logs (CM, MS, SLM, and MM logs) until the scheduled start of the ONP. Should any problem arise, take appropriate action to assure front-end stability.

ATTENTION
If office is equipped with a CM/SLM front end processor, STOP HERE. Do not continue.

ATTENTION
Complete the following steps ONLY if the office is equipped with a XA-CORE front end processor.

---

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

```
> MAPCI;MTC;XAC;SM
```

---

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

```
> XACMTC
> REXTST RUN FULL
```

---

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

Complete diagnostics are available in the XAC415 log.

```
> LOGUTIL
> OPEN XAC 415
> QUIT
```

—continued—

Procedure 5
Processor tests SNSE (continued)

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

```
> SM
```

Wait for Shared Memory to sync.

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

---

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

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

```
> SM;
> BSY <slot> <side>
> TST <slot> <side>
> RTS <slot> <side>
```

Where <slot> is slot of element and <side> is F for front or R for rear.

Repeat for each Shared Memory card provisioned.

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

```
> PE
> BSY <slot> <side> FORCE
> YES                                                    {to confirm}
> TST <slot> <side>
> TST <slot> <side>
```

Where <slot> is slot of element and <side> is F for front or R for rear.

Repeat for each Processor Element card provisioned.

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

```
> IO
> BSY <slot> <side> FORCE
> YES                                                    (to confirm}
> TST <slot> <side>
> RTS <slot> <side>
```

Where <slot> is slot of element and <side> is F for front or R for rear.

Repeat for each Input/Output Processor card provisioned.

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

```
> QUIT ALL
```

—continued—

Procedure 5
Processor tests SNSE (continued)

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

```
> MS;BSY <x>
```

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

---

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

```
> TST <x>
```

---

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

---

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

```
> RTS <x>
```

---

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

---

38 **ACT** Switch MS clock mastership.

```
> SWMAST
```

---

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

---

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

---

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

```
> QUIT ALL
```

---

42 Continue to monitor front-end stability logs (XAC and MS logs) until the scheduled start of the ONP. Should any problem arise, take appropriate action to assure front-end stability. An unstable processor could jeopardize the cutover to SuperNode.

4.3.6 Procedure 6 – Processor test SuperNode

Continue with this procedure *only after the SuperNode has been loaded by the Nortel Networks Installer*. When the First Shipment of ONP tapes and documents arrive on site, the Installer will load the SuperNode using an undatafilled PCL image (this image is considered the "Commissioning load").

1 **Site and Inst/SN** It is recommended to repeat on the SuperNode the same Processor Tests that were performed on the SNSE. However, the *testing must be coordinated with the Nortel Networks Installer on-site.* ***Do not proceed without first clearing this with the Installer.***

---

2 When ready, *on the SuperNode switch* repeat **Procedures 3 through 5** above. These steps are exactly the same for either SNSE or SuperNode.

4.3.7 Procedure 7 - Clean up SFDEV

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

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

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

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

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

```
> ERASESF <file_name>
```

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

4.3.8 Procedure 8 - Verify table OCGRP

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

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

CAUTION

Verify table OCGRP datafill is correct for TOPS networks.

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

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

---

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

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

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

—continued—

Procedure 8
Verify table OCGRP (continued)

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

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

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

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

---

4 ***IMPORTANT:*** Verify and update table OCGRP after the ONP.

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

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

4.3.9 Procedure 9 - Table ACDGRP

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

a. `> OMSHOW ACDGRP ACTIVE`

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

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

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

4.3.10 Procedure 10 - Fill in Test Call Scripts

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

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

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

4.3.11 Procedure 11 - Site Ready DMS-resident maintenance tool

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

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

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

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

b. Enter the SWUPGRADE READY platform.

```
> SWUPGRADE READY
```

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

c. Begin the SWUPGRADE READY process.

```
> START
```

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

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

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

Recommended setting is device you are logged onto.

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

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

—continued—

Procedure 11
Site Ready DMS-resident maintenance tool (continued)

Variable: **LOGS** [TRAP SWERR CM CMSM MS INIT]

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

Recommended settings is the default logs.

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

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

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

Recommended settings is the to CSP load number.

Value: <2 digit number>

eg1: 13 - for LEC00013, LET00013, LLT00013, etc.
eg2: 14 - for LEC00014, LET00014, LLT00014, etc.

Variable: **PM_VERIFY_FILE** [NONE]

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

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

Note: When using the PM_VERIFY_FILE, the file must be located on the storefile device (SFDEV).

Value: <file name> - or NONE

eg1: PMCHECK13 - validates PM loads for CSP13.
eg2: PMCHECK14 - validates PM loads for CSP14.

—continued—

Procedure 11
Site Ready DMS-resident maintenance tool (continued)

Variable: **PRINTER** [SINK]

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

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

Value: <printer name> or SINK

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

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

Variable: **PAUSE_ENABLED** [YES]

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

Recommended settings is the default: YES.

Value: <yes> - or NO.

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

Example:

```
> SET TRACE_DEVICE MAP
> SET PAUSE_ENABLED YES
```

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

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

```
> DISP VAR ALL
OR
> DISP VAR <variable_name>
```

—continued—

Procedure 11
Site Ready DMS-resident maintenance tool (continued)

d. Execute the SWUPGRADE READY steps.

```
> GO
```

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

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

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

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

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

```
> DISP STEPS
```

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

```
> HELP <step_name>
```

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

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

f. Exit the SWUPGRADE increment.

```
> QUIT                                         {exits SWUPGRADE}
```

—continued—

Procedure 11
Site Ready DMS-resident maintenance tool (continued)

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

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

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

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

b. Enter the BCSUPDATE increment.

```
> BCSUPDATE
```

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

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

d. Execute the PRECHECK steps.

```
> PRECHECK
```

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

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

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

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

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

```
> STATUS PRECHECK
```

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

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

This page intentionally blank

5 TABAUDIT procedure

Begin this procedure **30 calendar days** before the software delivery conversion date. TABAUDIT (Table Audit) is used during ONP site preparation to verify table data integrity. Reports are produced for generic table checks, syntax checks, and table-specific data checks including routing checks. TABAUDIT is available for all tables and is executed on the active side with the switch in sync. Nortel Networks Software Delivery recommends auto-scheduling of TABAUDIT (AUTOTABAUDIT) instead of manual TABAUDIT.

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

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

CAUTION

Review all TABAUDIT customer service bulletins and notices before attempting to correct any table data errors.

The bulletins and notices will alert you to any Non-ONP impacting failures identified by TABAUDIT. Non-ONP impacting failures can be disregarded and will not require any corrective action.

Note: This procedure does not use all of the AUTOTABAUDIT options available to the user. Additional information can be obtained by using the help command to generate a list of all the commands in the TABAUDIT or AUTOTABAUDIT directory. Refer to section "Using TABAUDIT and AUTOTABAUDIT" in Appendix A of this document for more information on TABAUDIT (including

TABAUDIT Enhancement feature AR1917 if upgrading from Base08 and higher). Feature AR1917 improves the automated TABAUDIT scheduling capabilities, timeframe specification, and user interface.

5.1 Procedure

5.1.1 Procedure 1 - Using AUTOTABAUDIT to run TABAUDIT

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

- Only one user at a time can be in the AUTOTABAUDIT directory.
- Before executing AUTOTABAUDIT, you must define a list of session parameters from within the AUTOTABAUDIT level.
- Only one AUTOTABAUDIT session can be executed at a time; however, multiple AUTOTABAUDIT sessions can be scheduled.
- You cannot change an active AUTOTABAUDIT session's parameters without first terminating the session.
- AUTOTABAUDIT cannot be executed at the same time as TABXFR or an image dump.

The AUTOTABAUDIT increment consists of the following subcommands:

INCLUDE EXCLUDE STATUS REPORT CLEAR TIMEFRAME EXECUTE TERMINATE QUIT HELP INFO

From within the AUTOTABAUDIT increment type:

```
> HELP <subcommand>
```

for further help on any subcommand.

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

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

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

```
> TABAUDIT
TABAUDIT:

> AUTO
AUTOTABAUDIT:
```

b. Clear the *included* list of tables.

```
AUTOTABAUDIT:
> CLEAR INCLUDED
```

c. Clear the *scheduled* list of timeframes.

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

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

d. Define the list of tables to be verified.

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

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

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

2 **Site/ACT** Define the scheduled AUTOTABAUDIT session.

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

a. For CSP06 and lower:

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

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

For CSP07 and higher:

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

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

Example:

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

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

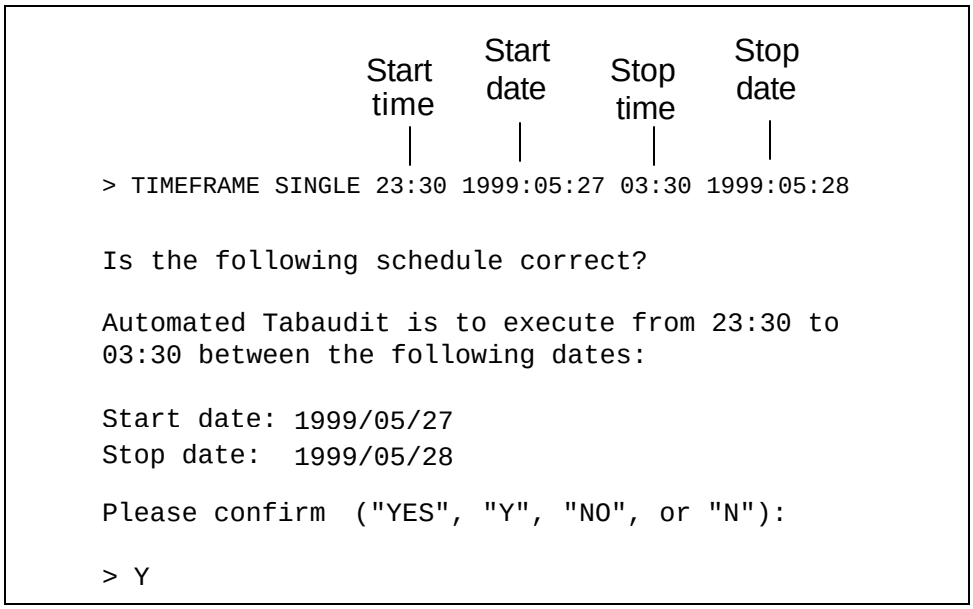
The above definition will schedule TABAUDIT to run between the hours of 23:30 p.m. and 03:30 a.m. on May 27 and 28.

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

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

Example timeframe for AUTOTABAUDIT



b. Verify the scheduled AUTOTABAUDIT session parameters.

```
AUTOTABAUDIT:
> STATUS
```

This displays the current AUTOTABAUDIT session parameters.

---

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

```
AUTOTABAUDIT:
> EXECUTE
```

This first shows a STATUS. If correct, confirm with "YES" when prompted.

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

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

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

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

Example of AUTOTABAUDIT execute

```
AUTOTABAUDIT:
> EXECUTE

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

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

The following tables are INCLUDED

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

The following tables are EXCLUDED

   No tables have been excluded.

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

> yes
```

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

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

```
AUTOTABAUDIT:
> STATUS
```

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

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

---

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

```
AUTOTABAUDIT:
> REPORT ERRORS
```

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

---

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

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

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

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

c. `> CHECK`

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

—continued—

Procedure 1
Using AUTOTABAUDIT to run TABAUDIT (continued)

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

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

a. `> TABAUDIT`

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

c.
```
TABAUDIT:
> EXECUTE
```

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

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

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

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

6 Restore CM and MS load files

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

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

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

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

CAUTION

The Operating Company must ensure there is sufficient disk space for an office image.

Depending on the image size and available disk space, it may be necessary to erase old image files, or re-allocate the disk volume, or both to complete this procedure.

6.1 Procedure

6.1.1 Procedure 1 - Restore CM and MS load files

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

- The volume should *not* be on the same disk volume with active DIRP billing.
- At the start of the SN D/R Procedure, site personnel will be asked to provide which disk volume was used to restore the CM and MS load files.

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

---

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

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

b. Enter the disk utility environment.

```
> DISKUT
```

c. INSERT the tape.

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

d. LIST the tape.

```
> LF <tape_device>
```

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

—continued—

Procedure 1
Restore CM and MS load files (continued)

.

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

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

a. For SLM disk on CSP07 and higher

```
> MFRESTORE FILE <disk_volume><tape_device>
  <filename_CM><filename_MS>
```

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

For SLM disk on CSP06 and lower

```
> RE FILE <disk_volume><tape_device><filename_CM>
```

This restores the CM load file onto SLM disk.

```
> RE FILE <disk_volume><tape_device><filename_MS>
```

This restores the MS load file onto SLM disk.

For XA-Core disk

Use the SCANF command to restore the load files.

```
> SCANF <tape_device> COPY <volume_name>
```

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

b. EJECT the tape, allowing for safe removal.

```
> ET <tape_device>
```

c. Exit the DISKUT environment

```
> QUIT ALL
```

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

6.1.2 Procedure 2 - Pre-load Message Switch

ATTENTION: Do not perform this procedure if the Message Switch was loaded during the SuperNode commissioning and is "patched current."

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

```
> MAPCI;MTC;MS
```

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

---

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

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

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

---

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

```
> MAPCI;MTC;MS
```

---

4 Busy the MS with the SLAVE clock.

```
> BSY <MS#>
```

---

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

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

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

—continued—

Procedure 2
Preload Message Switch (continued)

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

```
> TST <MS#>
```
{on the OOS MS}

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

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

---

7 Return the MS to service.

```
> RTS <MS#>
```
{not OOBAND!}

---

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

---

9 Switch MS clock mastership.

```
> SWMAST
```

---

10 Monitor MS logs for 10 minutes to ensure stability.

---

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

---

12 QUIT out of the MAP level.

```
> QUIT MAPCI
```

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7 Dry Run Process

7.1 General.

Certain Nortel Networks markets and Project Offices require their customers to perform a "Dry Run" SNSE to SuperNode Conversion prior to the actual ONP. The Dry Run Process is intended to assure the office is ready for the conversion and all required site preparation work has been completed. A successful Dry Run is the best path to conversion success, since it provides a means to identify any situation that may jeopardize the actual ONP.

7.2 Dry Run Process

The Dry Run is normally scheduled to be completed 3 to 5 days prior to the actual conversion. The process involves using a "Dry Run Process Guideline" and the procedures in this document to complete the Dump and Restore Phases of the SNSE to SuperNode conversion and then return the office back to its original state. The following procedures will be completed for the Dry Run:

- Preliminary phase procedure
- SNSE Dump and Restore procedures
- Clean-up on the SNSE
- SN Dump and Restore procedures
- Clean-up on the SN

IMPORTANT: The "PRESWACT procedure" is not performed during the Dry Run Process.

7.3 Dry Run Requirements

Before a Dry Run can be attempted, certain requirements must be met. These requirements have been established by the Project Office and are based on the various Installation Manual (IM) Planning guides used to complete the SNSE to SuperNode conversion. Customers must consult with the Project Office to fully understand the importance of the Dry Run requirements and impact to the job if they are not met.

7.4 Dry Run Process Guideline

The Dry Run Process Guideline found in Appendix D has been established to provide instructions for performing a Dry Run on an office that is preparing for a SNSE to SN conversion. The guideline must be used in conjunction with the procedures in this document.

IMPORTANT: Please check with your Nortel Networks regional customer representative to determine if your market will require a Dry Run.

8 Site responsibilities the day of the software delivery

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

8.1 Procedure

8.1.1 Procedure 1 - Day zero checklist

1	**Site** Verify that all pre-application activities are complete. This includes the site preparation procedures, TABAUDIT, and Restore CM and MS load files.
2	Verify the ONP start time. Either Nortel Networks and/or the Operating Company established this start time during the site preparation phase. To verify this time refer to the software delivery site-ready reports or contact your next level of support. If requesting a change to the start time contact your Nortel Networks regional customer representative.
3	Verify front-end stability by ensuring the last REX test passed.
4	Take an office IMAGE and back it up to tape. Store the tape copy of the office IMAGE for at least 30 days following the ONP.
5	Ensure you have defined and tested the *Test Call Scripts*. The test call plan must be verified both *before and after* activation of the new software load. For guidelines refer to Appendix C.
6	Patches and process files downloaded to SFDEV for the ONP must remain where they are. Do not erase these files.
7	Check for a **SOC file** "<clli>_SCF" or "<clli>$SCF" in SFDEV (or download device). If a SOC file is present, copy the file to a disk drive (or tape). ***Note:*** For information on installing the RTU (right-to-use) SOC password file, refer to the *Software Optionality Control User's Manual* (NTP 297-8991-900).
8	Verify SFDEV is cleared of all unnecessary files. Do this in order to clear storefile space for ONP work, however DONOT erase any ONP related files.

—continued—

Procedure 1
Day zero checklist (continued)

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

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

8.1.2 Procedure 2 - Run DATADUMP

CAUTION

Allow sufficient time to run the DATADUMP.

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

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

a. `> LOGUTIL;STOPDEV <printer>`

Where <printer> is an available printer to be used for recording. This makes sure the logs are stopped on the device.

`> LEAVE`

b. `> RECORD START ONTO <printer>`

c. `> BCSUPDATE;DATADUMP`

When DATADUMP is completed:

`> QUIT`

d. `> RECORD STOP ONTO <printer>`

8.1.3 Procedure 3 - FX voice and data

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

- *Two dialup ports* (in addition to any X.25 ports) are required for each switch during the ONP— one dialup is used for the active terminal (controlling the conversion process) and the other is used for the trace device (tracing process events). Nortel Networks recommends one dialup reside on IOC 0, and the other on IOC 1.
- *One reliable voice number* is required for the ONP.

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

---

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

---

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

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

CAUTION

Failure to provide working and reliable dialups may cause problems during the ONP. Failure to provide four dialups (two SNSE and two SN) will jeopardize the SNSE/SN Conversion.

8.1.4 Procedure 4 - Network management control

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

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

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

```
> MASSCALL LIST CGAP ACODE ALL
```

This will give a full list of CODE CONTROLS which are ACTIVE.

---

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

8.1.5 Procedure 5 - Preserving logs over ONP

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

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

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

```
> LOGUTIL
> LISTREPS SPECIAL

> QUIT
```

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

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

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

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

> YES                                          {for confirmation}
```

Repeat for all intended tuple changes, then

```
> QUIT
```

9 Installer procedures to prepare the SuperNode

Nortel Networks Installation must complete the following procedures *before* the Applicator contacts the site to begin the Dump and Restore procedures.

9.1 Procedure

9.1.1 Procedure 1 – Verify SuperNode datafill

1 **Inst/SN** Using the D610/620 hardware extracts and the DMOPRO files provided by Nortel Data Engineering, ensure that the "engineered" data are identical with the actual hardware configuration of the SuperNode.

---

2 Contact the TAC Center immediately if any discrepancies are identified with the information provided by Data Engineering.

---

3 Ensure the data present in the SuperNode (Active) is correct and has been verified during Link Testing.

The Dump/Restore engineer will re-use data from the following tables and will transfer them into a new undatafilled load.

CMSHELF*	SUSHELF
XACINV**	MSINV
NIUINV	MSCDINV
LIUINV	MSPTINV
LTCINV	MSILINV
TMINV	ENINV or NETWORK***
LMINV*	ENCDINV or NETJUNCT***
DCMINV*	IOC
TERMDEV	SLM*
MSFWLOAD	LIMINV
PMLOADS	LIMCDINV
PADNDEV	LIMPTINV
XSGDEF**	SDMINV

*Supports SuperNode CM/SLM platform only
**Supports SuperNode XA-Core platform only
***Supports ENET or JNET equipment

IMPORTANT: At this point, the SuperNode should contain the verified datafill that was used during Installation link testing. The SuperNode should also remain in SYNC.

—continued—

Procedure 1
Verify SuperNode datafill (continued)

4 **Inst/SN** Ensure all PM loads required are copied from SNSE disk volumes to the SuperNode disk volumes. Also copy all required “X” and “I” patches. Especially verify each ISN load has current image dumped to SNSE disk (patched current) being on SuperNode disk volume. Ensure tables PMLOADS and PADNDEV on the SuperNode reflect the required disk volume datafill.

9.1.2 Procedure 2 – Verify Dial-ups and MAP

ATTENTION

SNSE and SN dial-ups on IOMs are NOT supported.

If the SNSE office is equipped with IOMs, the SNSE to SN Conversion will require a second CIOC on the SNSE in place of IOM 0. For more information refer to IM 72-6185 "Installation of Two CIOCs and IOM 0 Migration." This IM procedure must be completed prior to the scheduled Dry Run.

1 **Inst/SNSE/SN** Login on both the SNSE and SuperNode switches. For each of the assigned dial-ups, verify the datafill and device states are correct to allow remote dial-in by the Software Delivery Applicator.

Verify dial-up information for both SNSE and SuperNode. There should be a total of four dial-ups, two for each switch. In addition, verify the following condition exists:

- SNSE dial-ups: one through IOC 0 and one through IOC 1.
- SNSE equipped with IOMs: one through CIOC and one through IOM 1.
- SuperNode dial-ups: both are through the CIOC

IMPORTANT: The designated "ACT_terminal" dial-up information for both the SNSE and the SuperNode must be the same. This includes the following information for each: IOC number, Card number, Port number, and Baud rate. Failure to meet this requirement will cause the SNSE to SuperNode Conversion process to fail.

Note: For SNSE offices equipped with IOMs, the designated ACT_terminal should be through the CIOC (reference IM72-6185).

---

2 In addition to dial-ups, check table TERMDEV on the SNSE *and* the SuperNode and ensure the default MAP terminal is named MAP. If a different name is being used, correct the situation before the ONP is scheduled to start. Failure to do this will cause the SNSE to SuperNode Conversion process to fail.

Note: For correct dial-up configuration, refer to the appropriate SuperNode SE to SuperNode IM (Installation Method) Planning Guide and see the Site Requirements section.

9.1.3 Procedure 3 – Verify tape and disk volumes

1 **Inst** Verify that three tape cartridges are available for the SNSE to SuperNode conversion process. The tapes are needed for the following purposes:

- SNSE Dump and Restore phase (labeled “SEDUMP”)*
- SNSE PRESWACT Dump phase (labeled “PSDUMP”)*
- Back-up or spare tape

*Not required for SNSE CM/SLM to SN XA-Core Conversions

---

2 Per IM (Installation Method) procedure, verify that the appropriate disk volumes have been created on both the SNSE and the SuperNode. These disk volumes should be sufficiently large enough to allow for the dumping and restoring of files (minimum size recommended is 100MB), and should be empty prior to the ONP. Verify the following four disk volumes have been created:

- SNSE: S00DDUMP (for CM/SLM) or F02LDUMP (for XA-Core)
- SNSE: S00DPSWA (for CM/SLM) or F02LDUMP (for XA-Core)
- SuperNode: S00DDUMP (for CM/SLM) or F02LDUMP (for XA-Core)
- SuperNode: S00DPSWA (for CM/SLM) or F02LDUMP (for XA-Core)

This concludes the SNSE/SN preparations required to begin the Dump and Restore Procedures. Leave the SuperNode in this configuration until contacted by the Software Delivery Applicator.

IMPORTANT: Do not make any further changes to the SuperNode software or table data. Doing so will cause a delay in the ONP and may jeopardize the SNSE to SuperNode Conversion.

10 Preliminary phase procedure

Begin this section at the established ONP start time on the day of the SNSE to SN Conversion. This section details Dump and Restore activities performed by the Operating Company (Site) personnel, the on-site Nortel Networks Installer, and the Software Delivery Applicator.

Four dialup ports are required for the SNSE to SN Conversion, two on the SNSE processor and two on the SuperNode processor. The Site is requested to assist Installation in providing these dialups. If possible, do *not* use X25 terminals to perform the remote procedures.

The Operating Company may elect to monitor the application process by recording onto printers. Start recording by issuing the following command for printers for each of the dialup ports to be used by the Applicator: "RECORD START FROM <terminal_id> ONTO <printer>." In addition, the Applicator should acquire a *soft copy* of console sessions for all dialups.

CAUTION

Ensure NO hardware changes, additions or retrofits are in progress.
Activities such as Network or Memory extensions and Peripheral additions or deletions are prohibited during the ONP. Such hardware must be made INB (installation busy) or OFFL (offlined), and any further software changes must cease.

10.1 Note on Installer Responsibilities

This MOP supports three types of SNSE to SN Conversions. Depending on which type of conversion is being performed, Nortel Networks Installation must have completed a series of Installation Methods (IM) to continue beyond this point. The sequence for the completion of these methods is referenced in the appropriate IM *SuperNode SE to SuperNode Upgrade Planning* guide (see Related Documents section).

On the night of cutover, the On-site Installer will perform certain IM *SuperNode SE to SuperNode Night of Cutover* procedures in conjunction with the remaining procedures in this MOP. The Software Delivery Applicator will be responsible to direct all software delivery activities.

10.2 Procedure

10.2.1 Procedure 1 – Interrupt/ABORT process

Before continuing with the procedures in this section, the Operating Company (Site), the on-site Installer, and the Software Delivery Applicator should be familiar with each of the following steps.

If problems develop during the ONP, resort to one of the following actions.

1 If the TABXFR process must be halted or interrupted, use the HALT option. Refer to “Interrupt TABXFR” in *Appendix A*

---

2 It may be necessary to STOP (and reschedule) the application after PRESWACT has been implemented, but before the switch of activity. Refer to “PRESWACT Abort” in *Appendix A*.

---

3 If a controlled REVERT is required after the switch of activity (SWACT). Refer to the “Revert to SNSE procedure."

10.2.2 Procedure 2 – Remote login on SNSE and SN

1 **App/SNSE and SN** Contact the Network Operations Center (if required) and the site on the voice phone and connect to all dial-ups.

---

2 Login the users and, if applicable, set LOGINCONTROL (for all dial-ups).

a. <*break*>

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

or
```
> <username>
> <password>
```

b. Obtain IOC device and user information as follows.

```
> BCSUPDATE;DEVICE
> QUIT
> QUSER
> LOGINCONTROL <device> QUERY
```

c. Verify each of the following conditions exist. If not, change it.

- *User Priority* is *4*
- *User Stack Size* is at least *7000*
- *User Privilege Class* is *ALL*
- *ComClass* is *ALL*
- *OpenForceout* is *N*. If not, note original status and enter:

  ```
  > LOGINCONTROL <device> OPENFORCEOUT FALSE
  ```

- *MaxIdleTime* is *Forever*. If not, note original status and enter:

  ```
  > LOGINCONTROL <device> MAXIDLETIME FOREVER
  ```

d. Repeat this entire procedure for each of the assigned dial-ups.

---

3 **App/SNSE and SN** Verify dial-up information for both SNSE and SuperNode. There should be a total of four dial-ups, two for each switch. In addition, verify the following condition exists:

- SNSE dial-ups: one through IOC 0 and one through IOC 1
- SuperNode dial-ups: both are through the CIOC.

IMPORTANT: The designated “ACT_terminal” dial-up information for both the SNSE and the SuperNode must be the same (IOC, Card number, Port number, and Baud rate), and the ACT_terminal must be located on IOC 0.

10.2.3 Procedure 3 – Suspend Activities on SNSE and SN

1 **App/SNSE and SN** Perform the following on both the SNSE and the SuperNode.

```
> AUTODUMP STATUS
> AUTODUMP OFF              {if scheduled time conflicts with image dump}
> REXTEST SUSPEND ALL       {if scheduled time conflicts with image dump}
```

11 SNSE Dump and Restore procedures

In this section the Software Delivery Applicator begins the Dump and Restore activities. It is assumed that the SNSE front-end is in-service with no faults and is in-SYNC. The dump process is performed with the SNSE remaining in-SYNC or DUPLEX mode.

ATTENTION

Depending on the type of conversion being performed (SNSE-CM/SLM to SN-CM/SLM or SNSE-XA to SN-XA or SNSE-CM/SLM to SN-XA), some steps may not apply. The Applicator will need to pay close attention to the instructions provided in the following section, particularly when the process differences require additional procedures or the omission of procedures.

Prior to starting this procedure and if performing a ***SNSE-CM/SLM to SN-XA Conversion***, verify with on-site Installer that the MATECORELINK was proven to be functional and the SESNCOM tools are suspended on both SNSE and SuperNode.

11.1 Procedure

11.1.1 Procedure 1 – Load Modules on SNSE

The SNSE to SN Conversion process modules will need to be located on a storage device on the SNSE. The method used to do this will depend on how the modules were delivered to the site (tape or downloaded). If delivery was tape, perform step 1 to restore the modules to a disk volume. If delivery was via download, skip step 1 and begin this procedure at step 2.

1 **Inst and App/ACT SNSE** Locate the installation tools tape containing the SNSE to SN Conversion process modules.

a. Insert and list the tape.

```
> DISKUT;LV CM;IT <tape_device>;LF <tape_device>
```

where <tape_device> is S00T or S01T for CM/SLM and F02UTAPE or F17UTAPE for XA-Core.

—continued—

Procedure 1
Load Modules on SNSE (continued)

b. Restore the SNSE to SN Conversion process modules to a disk volume.

> RE FILE <**volume_name**> <**tape_device**> <**file_name**>
where <volume_name> is the disk volume where modules are being restored, and <tape_device> is the device used in step a, and <file_name> is the module file name.

For SuperNodeSE - CM/SLM:

Repeat for the following file names:

```
RTSDRWRS$LD*
RETTABX$LD
RETROUI$LD
RETROCI$LD
RETLINES$LD*
BSYALLUI$LD
BSYALLEN$LD
BSYALLDH$LD*
BSYALLCR$LD
BSYALLC7$LD
BSYALLOP$LD
```

OR

For SuperNodeSE - XA-Core:

Repeat for the following file names:

```
XARTSDRW$LD*
XARETXFR$LD
XARETUI$LD
XARETRCI$LD
XARETLNS$LD*
BSYALLUI$LD
BSYALLEN$LD
BSYALLDH$LD*
BSYALLCR$LD
BSYALLC7$LD
BSYALLOP$LD
```

*Not required for GSM/MTX loads

—continued—

Procedure 1
Load Modules on SNSE (continued)

c. Eject the tape:

```
> ET <tape_device>
```
where <tape_device> is the device used in step a.

---

2 List the device (SFDEV, disk volume, or tape) containing the SNSE to SN Conversion process modules.

```
> LISTSF ALL
or
> DISKUT
> LF <volume_name>
```
where <volume_name> is disk volume where modules are restored.

---

3 LOAD the following modules.

For SuperNodeSE - CM/SLM:

```
> LOAD BSYALLUI
> LOAD RETROUI
```

OR

For SuperNodeSE - XA-Core:

```
> LOAD BSYALLUI
> LOAD XARETUI
```

---

4 Verify each of the modules loaded successfully.

For SuperNodeSE - CM/SLM:

```
> QUERY BSYALLUI
> QUERY RETROUI
```

OR

For SuperNodeSE - XA-Core:

```
> QUERY BSYALLUI
> QUERY XARETUI
```

Note: Each query should show module information. If a module failed to load, troubleshoot the problem. It may be necessary to erase the defective module and download/restore and load the module again.

```
> QUIT
```

11.1.2 Procedure 2 – SWUPGRADE SNSE Phase

The Office Data Freeze is now in effect. Office data changes to the SNSE software load (such as service orders or data changes) should NOT be allowed after this point because these changes will not be carried over to the SuperNode and may adversely impact the success of the conversion.

CAUTION

Servord activity and table changes are not permitted during the ONP.
Inform all Operating Company personnel that data changes on the DMS, such as Servord and table changes must be HALTED until after the ONP is completed. Data changes made during the SNSE to SN conversion can cause ONP problems and may result in lost data on the restored side.

1 **App/ACT SNSE** Ensure the designated ACT_terminal is on IOC 0.

> **bcsupdate;device;quit**

---

2 Begin the process by entering the SWUPGRADE increment and initializing the SE2SN platform. On the ACT_terminal type:

> **swupgrade SE2SN**

---

3 Start the SWUPGRADE process. On the ACT_terminal type:

> **start**

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

3 Set up environment variables

Step: SETUP_ENV_VARS

Step SETUP_ENV_VARS prompts the user for values and sets the environment variables necessary to perform the SWUPGRADE. Enter the requested values on the IOC 0 device.

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

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

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

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

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

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

Variable: **TRACE_DEVICE** [ACT_terminal]

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

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

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

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

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

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

Variable: **LOGS** [default logs are TRAP SWERR CM CMSM MS for CM/SLM or TRAP SWERR XAC MS NET ENET for XA-Core]

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

Recommended setting is the default: logs TRAP SWERR CM CMSM MS (for CM/SLM) or logs TRAP SWERR XAC MS NET ENET (for XA-Core)

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

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

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

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

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

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

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

Value: <printer name> or SINK

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

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

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

Holds the name of the CM (front-end) that the SWUPGRADE steps will be executed on. Different steps are executed depending on if the CM is a SNSE, SN COMMISSIONING, or SN Un-Datafilled.

Recommended setting is SNSE.

Value: <CM>

Where <CM> is SNSE, SN_COMMIS, or SN_UDF

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

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

Holds the name of the device <DISK> or <TAPE> that will be used to store retrofit files onto. The disk volume name must be 8 characters or less.

Recommended setting is a disk volume 8 characters or less and formatted as a "std" volume to at least 100 MBYTES and has a maximum file capability set to 2047.

Value: <device_name>

Where <device_name> is an eight or less character name.

eg1: S00DDUMP (CM/SLM)

eg2: F02LDUMP (XA-Core)

eg3: T<x> - Where <x> is 0 or 1 for Tape 0 or Tape 1.

Note: The disk volume used must currently be empty.

---

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

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

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

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

> **swupgrade**
> **disp var <variable_name>**
> **disp var all**

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

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

Observe the Trace_device to monitor the SWUPGRADE progress.

When prompted enter any additional commands on the ACT_terminal.

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

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

> **go**

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

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

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

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

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

Step: DISPLAY_SITE_INFO

This step verifies the platform type by comparing the CURRENT_PLATFORM environment variable supplied by the user during the SETUP process and various table datafill.

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

Step: LOAD_RETRO_MODS

This step creates a commands file in SFDEV that will automatically load all of the modules necessary to perform the SNSE-SN conversion and gives instructions for:

1. Listing the device that contains the conversion modules
   for example: SFDEV, disk volume, or tape.
2. Listing and reading the RETRO_MODS file. When read, this file will load all the needed modules.

Example:
> diskut;lf <device_name>
where <device_name> is the disk volume or tape
> listsf all
> read RETRO_MODS
> quit

Note: This step causes the SWUPGRADE process to pause until the user enters GO, RESUME or CONTINUE on the ACT_terminal. After performing the SWUPGRADE instructions, remove the PAUSE that was inserted after this step. To do this perform the following on the ACT_terminal:

> **go**
> **remove pause AFTER step LOAD_RETRO_MODS**
> **go**

Step: DEVICE_AND_USER_INFO

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

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

Step: CHECK_TERMINAL_IOC

This step ensures that the active terminal executing the SWUPGRADE process is on IOC 0. Step will fail otherwise and require that the process be CANCELED and restarted on a different terminal device.

Step: CHECK_LOGS

Displays a count of logs in the Logutil buffer since the start of the process. The type of logs displayed is determined by the input to environment variable: **LOGS**.

IMPORTANT: Use Logutil commands to display the contents of all logs listed. If traps exist, also display full trap information.

Step: DISABLE_AUTOIMAGE

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

Step: SET_OFFICE_TUPLES

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

Step: DISABLE_PRSM_AUDIT_ACT

This step attempts to STOP and DELAY all PSRM processes that are bound into the PRSM scheduler. Performs the equivalent:
AUTOPROC ALL STOP;AUTOPROC ALL DELAY

Step: STOP_JOURNAL_FILE

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

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

Step: TABXFR_DUMP

This step informs the user to perform the following:

1. Enter the TABXFR level and setup platform for DUMPONLY
2. Start TABXFR by performing DUMP <volume_name>
   where <volume_name> equals the variable DUMP_DEVICE.
3. Ensure all tables were successfully dumped to the DUMP_DEVICE.

Example:
> tabxfr
> setup dumponly
> dump <volume_name>
   where <volume_name> equals the variable DUMP_DEVICE
> quit

IMPORTANT: Ensure table USERINF dumps successfully. If table USERINF fails to restore, refer to the documented workaround.

Note: This step causes the SWUPGRADE process to pause until the user enters GO, RESUME or CONTINUE on the ACT_terminal. After performing the SWUPGRADE instructions, remove the PAUSE that was inserted after this step. To do this perform the following on the ACT_terminal:

> **go**
> **remove pause AFTER step TABXFR_DUMP**
> **go**

Step: VERIFY_DUMP_RESTORE

This step verifies that all tables have completed (not in the in_progress or not_started states) before the activity switch can occur. If all tables are not in the completed state, a file containing the table states is generated and user is informed to print the tabstates file.

Failure Paths:
- unable to create the tabstates file
- unable to write a record to the tabstates file
- unable to close the file

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

Step: NODEINFO_EXTRACT

This step extracts the node information from table NNASST and creates a MATCHNODES file in SFDEV. Step NODEINFO_EXTRACT contains the following CI commands:
RETROFIT DUMP;NODEINFO EXTRACT MATCHNODES;
QUIT;RETROFIT CLEAR

Continue the SWUPGRADE process by typing:

> **go**

Step: START_JOURNAL_FILE

This step re-establishes recording onto the journal file.

Step: DUMP_TERMINAL_INFO

This step extracts the MAP and active terminal device information. It verifies that the active terminal is IOC 0, and extracts the NNASST, TERMDEV, and IOC tuples and writes the information to file DIALUP_TERMS.

Note: This step will not create file MAP_DEVICE if the MAP tuple in table TERMDEV is designated as node_no 8.

Step: COPY_FILES_TO_SLM *(CM/SLM)*
or
Step: COPY_FILES_TO_DUMP_DEVICE *(XA-Core)*

This step copies the files MATCHNODES, DIALUP_TERMS, and MAP_DEVICE from SFDEV to the DUMP_DEVICE variable. These files are used by the NODEINFO_DMOPRO, NODEINFO_DELTA, and BUILD_IOC_SLM_DMOPRO_FILE (CM/SLM) or BUILD_DIALUP_TERMS_DMOPRO_FILE (XA-Core) steps.

Note: If file MAP_DEVICE was not created during the previous step, the following warning is displayed:

WARNING: File MAP_DEVICE does not exist on specified volume SFDEV.

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

ATTENTION
The following "Part A-Compress File(s)" workaround instructions are not applicable to SNSE-CM/SLM to SN-XA Conversions.

IMPORTANT: The next step (BACKUP_DISK_VOLUME) will pause and give instructions to backup the DUMP_DEVICE disk volume onto a tape device. Before performing the SWUPGRADE instructions, perform Part A of the following manual workaround:

Part A - Compress File(s):

After TABXFR_DUMP is completed, an issue exists with files that contain more than 32767 records. These files cannot be restored as part of a disk volume. The workaround for this is to identify any table files with more than 32767 records and compress them. The compression has to be done before the disk-volume is backed-up to tape (in this workaround table CELLULAR is used for the examples).

1. Identify any file(s) with more than 32767 records.
   > diskut;lf <volume_name>
   where <volume_name> equals variable DUMP_DEVICE
   i.e. lf S00DDUMP
2. Compress the table file(s).
   > compress <table_file> <table_file_com> <volume_name> text
   i.e. compress cellular$ cellular_com S00DDUMP text
   (repeat this command for each table file)
3. List the volume again.
   > lf <volume_name>
   i.e. lf S00DDUMP
4. Delete original file name(s) with more than 32767 records.
   > ddf cellular$
   > y
   (repeat this command for each table file)
5. List the volume again.
   > lf <volume_name>
   i.e. lf S00DDUMP
6. Quit the DISKUT level.
   > quit

Part B - Uncompress file(s):
The second part of this workaround will be performed during the SN Dump and Restore Procedure.

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

ATTENTION
The following step BACKUP_DISK_VOLUME is not applicable to SNSE-CM/SLM to SN-XA Conversions.

Step: BACKUP_DISK_VOLUME

This step informs the user to perform the following in order to backup the disk volume onto a tape device.

1. Insert TAPE using IT.
2. Backup volume using BA.
3. Eject TAPE using ET.

Note: Before performing these instructions have the on-site Installer do the following: For CM/SLM place a tape cartridge into the SLM device (S00T or S01T) that corresponds to the variable DUMP_DEVICE. For XA-Core place a tape cartridge into an available DAT device.

Example:

For SNSE CM/SLM:

> diskut;lf <volume_name>
where <volume_name> equals variable DUMP_DEVICE
Example: LF S00DDUMP
> it <device_name> writelabel <label>
where <device_name> *equals S00T or S01T*
and <label> equals SEDUMP
Example: IT S00T WRITELABEL SEDUMP
> yes
> ba stdvol <volume_name> <device_name> <tape volume_name>
where <volume_name> equals variable DUMP_DEVICE,
and <device name> equals S00T or S01T
and <tape_volume_name> equals SEDUMP
Example: BA STDVOL S00DDUMP S00T SEDUMP
> et <device_name>
> quit

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

For SNSE XA-Core:

> diskut;lf <volume_name>
where <volume_name> equals variable DUMP_DEVICE
Example: LF S00DDUMP
> it <device_name> writelabel <label>
where <device_name> *equals F02UTAPE or F17UTAPE*
and <label> equals SEDUMP
Example: IT F02UTAPE WRITELABEL SEDUMP
> yes
> scanf <volume_name> copy <device_name>
where <volume_name> equals variable DUMP_DEVICE
and <device_name> *equals F02UTAPE or F17UTAPE*
Example: SCANF F02LDUMP COPY F02UTAPE
> et <device_name>
> quit

Note: This step causes the SWUPGRADE process to pause until the user enters GO, RESUME or CONTINUE on the ACT_terminal. After performing the SWUPGRADE instructions, remove the PAUSE that was inserted after this step. To do this perform the following on the ACT_terminal:

> **go**
> **remove pause AFTER step BACKUP_DISK_VOLUME**
> **go**

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

Step: PRINT_SWUPGRADE_REPORT

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

Description of the report columns:

Step name: The name of the step.
Sincelast: Elapsed time between previous and this step.
Start: Start time of this step.
Elapsed: The time it took to execute this step.
Return code: The final status of the step after completion.

Possible values for the return code are:

success: Step executed successfully.
pause_fail: The step failed and was re-executed.
pause_repeat: The step needed to be executed more than once.
pause_skip: The step caused a pause but was not re-executed.

Continue the SWUPGRADE process by typing:

> **go**

Step: PROCESS_COMPLETE

This step reminds the user to quit the SWUPGRADE increment and logout from the switch after the retrofit upgrade is completed.

> **go**
> **quit all**

—continued—

Procedure 2
SWUPGRADE SNSE Phase (continued)

6 ***ATTENTION:*** **Depending on the type of SNSE to SN Conversion, perform one of the following sub steps.**

a. For SNSE-CM/SLM to SN-CM/SLM:

Inst Remove the data cartridge from the SNSE. Ensure it is labeled 'SEDUMP' and place it in the active SLM device on the SuperNode.

b. For SNSE-XA to SN-XA:

Inst Remove the data cartridge from the SNSE. Ensure it is labeled 'SEDUMP' and place it in an available DAT device on the SuperNode.

c. For SNSE-CM/SLM to SN-XA:

App Hand the office over to the on-site Lead Installer who will perform the Dump Data Transfer procedure per IM 78-0931. This procedure uses the MATECORELINK to transfer the contents of volume DUMP from SLM disk on the SNSE to XA-Core disk on the SuperNode. After the Installer completes the Dump Data Transfer, verify the disk volume on the SuperNode contains the table data. Also verify with the on-site Lead Installer that the SESNCOM tools are suspended on both the SNSE and the SuperNode.

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12 SN Dump and Restore procedures

ATTENTION

Depending on the type of conversion being performed (SNSE-CM/SLM to SN-CM/SLM or SNSE-XA to SN-XA or SNSE-CM/SLM to SN-XA), some steps may not apply. The Applicator will need to pay close attention to the instructions provided in the following section, particularly when the process differences require additional procedures or the omission of procedures.

12.1 Procedure

12.1.1 Procedure 1 – Verify CM and MS loads

1 **App/ACT SN** Locate the non-datafilled CM load file (either tape or disk volume).

ATTENTION: If office is CM/SLM perform substeps a through e only. If office is XA-Core perform substeps f through g only.

For SuperNode CM/SLM:

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

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

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

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

—continued—

Procedure 1
Verify CM and MS loads (continued)

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

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

Examples:
> SBF S01DUNIT1 LET014_CM CM 9
> SBF S01DIMAGE LEC015_S1 CM 9

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

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

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

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

Use the following commands to identify any open files:

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

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

To locate and rotate active billing files:

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

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

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

—continued—

Procedure 1
Verify CM and MS loads (continued)

For SuperNode XA-Core:

f. If loadmating from XA-Core disk, list the files on the disk volume with the non-datafilled CM load file.

> **diskut**
> **lv** *{lists all volumes on F02L and F17L}*
> **lf F02L<volume>** *{or F17L<volume>}*
Where <volume> is the disk volume with the CM load file.

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

g. If loadmating from XA-Core tape, place the tape cartridge with the non-datafilled CM load file into a tape drive device.

Note: The tape drive device will be F02UTAPE or F17UTAPE

---

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

At CI:

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

> **remlogout**

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

> **remlogout**

CAUTION

If the Message Switch is not loaded correctly escalate immediately.
Incorrect MS loads will cause subsequent ONP processes to fail and will jeopardize the SNSE to SN Conversion.

12.1.2 Procedure 2 – Load Modules on SN

The SNSE to SN Conversion process modules will need to be located on a storage device on the SN. The method used to do this will depend on how the modules were delivered to the site (tape or downloaded). If delivery was tape, perform step 1 to restore the modules to a disk volume. If delivery was via download, skip step 1 and begin this procedure at step 2.

1 **Inst and App/ACT SN** Locate the installation tools tape containing the SNSE to SN Conversion process modules.

a. Insert and list the tools tape.

```
> DISKUT;IT <tape_device>;LF <tape_device>
```

where <tape_device> is S00T or S01T for CM/SLM and F02UTAPE or F17UTAPE for XA-Core.

b. Restore the SNSE to SN Conversion process modules to a disk volume.

```
> LV CM
> RE FILE <volume_name> <tape_device> <file_name>
```

where <volume_name> is the disk volume where modules are being restored, and <tape_device> is the device used in step a, and <file_name> is the module file name

For SuperNode CM/SLM:

Repeat for the following file names:

*RTSDRWRS$LD**
RETTABX$LD
RETROUI$LD
RETROCI$LD
*RETLINES$LD**
BSYALLUI$LD
BSYALLEN$LD
*BSYALLDH$LD**
BSYALLCR$LD
BSYALLC7$LD
BSYALLOP$LD

OR

—continued—

Procedure 2
Load Modules on SN (continued)

For SuperNode XA-Core:

```
Repeat for the following file names:

  XARTSDRW$LD*
  XARETXFR$LD
  XARETUI$LD
  XARETRCI$LD
  XARETLNS$LD*
  BSYALLUI$LD
  BSYALLEN$LD
  BSYALLDH$LD*
  BSYALLCR$LD
  BSYALLC7$LD
  BSYALLOP$LD
```

*Not required for GSM/MTX loads

c. Eject the tape:

```
> ET <tape_device>
```

where <tape_device> is the device used in step a

---

2 List the device (SFDEV or disk volume) containing the SNSE to SN Conversion process modules.

```
> LISTSF ALL
or
> DISKUT
> LF <volume_name>
```

where <volume_name> is disk volume where modules are restored

---

—continued—

Procedure 2
Load Modules on SN (continued)

3 LOAD the following modules.

For SuperNode CM/SLM:

```
> LOAD BSYALLUI
> LOAD RETROUI
```

OR

For SuperNode XA-Core:

```
> LOAD BSYALLUI
> LOAD XARETUI
```

---

4 Verify each of the modules loaded successfully.

For SuperNode CM/SLM:

```
> QUERY BSYALLUI
> QUERY RETROUI
```

OR

For SuperNode XA-Core:

```
> QUERY BSYALLUI
> QUERY XARETUI
```

Note: Each query should show module information. If a module failed to load, troubleshoot the problem. It may be necessary to erase the defective module and download/restore and load the module again.

```
> QUIT
```

---

5 Set Table DSLIMIT to permit the dumping of Commissioning datafill.

```
> TABLE DSLIMIT;OVE;VER OFF
> RWOK ON
> POS STOREFS
> CHANGE 2 1000000
> QUIT
```

Note: A value higher than '1000000' may be required.

12.1.3 Procedure 3 – SWUPGRADE Commissioning Phase

1 **App/ACT SN** Begin the process by entering the SWUPGRADE increment and initializing the SE2SN platform.

> **swupgrade SE2SN**

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

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

---

2 Start the SWUPGRADE process on IOC 0 device.

> **start**

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

---

3 Set up environment variables

Step: SETUP_ENV_VARS

Step SETUP_ENV_VARS prompts the user for values and sets the environment variables necessary to perform the SWUPGRADE. Enter the requested values on the IOC 0 device.

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

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

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

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

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

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

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

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

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

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

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

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

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

Variable: **LOGS** [default logs are TRAP SWERR CM CMSM MS for CM/SLM or TRAP SWERR XAC MS NET ENET for XA-Core]

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

Recommended setting is the default: logs TRAP SWERR CM CMSM MS (for CM/SLM) or logs TRAP SWERR XAC MS NET ENET (for XA-Core)

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

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

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

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

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

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

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

Value: <printer name> or SINK

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

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

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

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

Holds the name of the CM (front-end) that the SWUPGRADE steps will be executed on. Different steps are executed depending on if the CM is a SNSE, SN COMMISSIONING, or SN Un-Datafilled.

Recommended setting is SN_COMMIS.

Value: <cm>

Where <cm> is SNSE, SN_COMMIS, or SN_UDF

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

Holds the name of the device <DISK> or <TAPE> that will be used to store retrofit files onto. The disk volume name must be 8 characters or less.

Recommended setting is a disk volume 8 characters or less and formatted as a "std" volume to at least 50 MBYTES and has a maximum file capability set to 2047 (see important notes below).

Value: <device_name>

Where <device_name> is an eight or less character name.

eg1: S00DDUMP (CM/SLM) – corresponding to active side CM/SLM

eg2: F02LDUMP (XA-Core)

eg3: T<x> - Where <x> is 0 or 1 for Tape 0 or Tape 1.

Note1: The disk volume used must currently be empty.

Note2: For *SNSE-CM/SLM to SN-XA conversions* the disk volume will not be empty due to the previously completed Dump Data Transfer procedure.

Variable: **INACT_CM** *(CM/SLM)*

Holds the number of the inactive CM to be upgraded with the new image.

Value: <cm number> - 0 or 1

Variable: **INACT_LOGMSG**

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

Value: <log msg> - a character string

Example:
```
*** H1234 Office_name LEC00015 10/FEB/2001 ***
```

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

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

Variable: **LDMATE_IMAGE** [default is TAPE for CM/SLM (no default for XA-Core)]

Holds the device name and filename used by the LOAD_MATE step (CM/SLM) or the SPLIT_AND_LOADMATE step (XA-Core).

If loadmating from CM/SLM disk:

Locate the disk volume with the non-datafilled CM load file and verify the boot pointer was set in ITOC.

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

Value: <device> <filename_cm> <method>

where <device> is the SLM disk volume, <filename_cm> is the non-datafilled CM load filename, and <method> is the method to loadmate. Options are either DIRECT or VIAMS (Direct is the preferred method).

Example: S00DUNIT1 LET015_CM DIRECT - Loads CM load file LET015_CM from device S00DUNIT1 using the DIRECT method.

If loadmating from CM/SLM tape:

Ensure the SLM tape is placed in the Inactive SLM tape drive.

Value: <device>

where <device> is TAPE.

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

If loadmating from XA-Core disk:

Locate the disk volume with the non-datafilled CM load file.

Value: <device> <filename_cm>

where <device> is the XA-Core disk volume and <filename_cm> is the non-datafilled CM load filename.

Example: F17LIMAGE LET015_CM - Loads the CM load file LET015_CM from device located in front slot 17 lower position.

If loadmating from XA-Core tape:

Ensure the tape is placed in an available DAT drive.

Value: <device>

where <device> is the tape drive device (F02UTAPE or F17UTAPE).

Example:
F17UTAPE - Loads the CM load file from device F17UTAPE.

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

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

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

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

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

> **swupgrade**
> **disp var <variable_name>**
> **disp var all**

---

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

Observe the Trace_device to monitor the automatic process.

When prompted enter any additional commands on the ACT_terminal.

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

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

> **go**

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

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

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

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

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

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

Step: DISPLAY_SITE_INFO

This step verifies the platform type by comparing the CURRENT_PLATFORM environment variable supplied by the user during the SETUP process and various table datafill.

Step: LOAD_RETRO_MODS

This step creates a commands file in SFDEV that will automatically load all of the modules necessary to perform the SNSE-SN conversion and gives instructions for:

1. Listing the device that contains the conversion modules
   for example: SFDEV, disk volume, or tape.
2. Listing and reading the RETRO_MODS file. When read, this file will load all the needed modules.

Example:
> diskut;lf <device_name>
where <device_name> is the disk volume or tape
> listsf all
> read RETRO_MODS
> quit

Note: This step causes the SWUPGRADE process to pause until the user enters GO, RESUME or CONTINUE on the ACT_terminal. After performing the SWUPGRADE instructions, remove the PAUSE that was inserted after this step. To do this perform the following on the ACT_terminal:

> **go**
> **remove pause AFTER step LOAD_RETRO_MODS**
> **go**

Step: DEVICE_AND_USER_INFO

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

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

ATTENTION
The following step RESTORE_DISK_VOLUME is not applicable to SNSE-CM/SLM to SN-XA Conversions.

Step: RESTORE_DISK_VOLUME

This step informs the user to perform the following in order to restore the disk volume from a tape device.

1. Insert TAPE using IT
2. List TAPE using LF
3. Restore volume using RE
4. Eject TAPE using ET.

Note: Before performing the instructions, ensure the tape was removed from the SNSE and placed in the SuperNode (active side SLM device for SuperNode CM/SLM or available DAT device for SuperNode XA-Core).

Example:

For SuperNode CM/SLM:
> diskut;it <device_name>
where <device_name> *equals S00T or S01T*
> lf <device_name>
> re stdvol <volume_name> <device_name> <tape volume_name>
where <volume_name> equals variable DUMP_DEVICE,
where <device_name> equals S00T or S01T,
and <tape volume_name> equals the tape label
Example: RE STDVOL S00DDUMP S00T SEDUMP
> et <device_name>
> quit

For SuperNode XA-Core:
> diskut;it <device_name>
where <device_name> equals F02UTAPE or F17UTAPE
> lf <device_name>
> scanf <device_name> copy <volume_name>
where <device_name> equals F02UTAPE or F17UTAPE
and <volume_name> equals variable DUMP_DEVICE
Example: SCANF F02UTAPE COPY F02LDUMP
> et <device_name>
> quit

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

ATTENTION

The following "Part B-Uncompress File(s)" workaround instructions are not applicable to SNSE-CM/SLM to SN-XA Conversions.

IMPORTANT: Before continuing the SWUPGRADE process, perform Part B of the following workaround (this is the second part of the "larger than 32767" workaround):

Part A - Compress File(s):
The first part of this workaround was performed during the SNSE Dump and Restore Procedure.

Part B - Uncompress File(s):
Use the "expand" command to uncompress the file(s).

1. List the disk volume containing the table file(s)
   > diskut;lf <volume_name>
   where <volume_name> equals variable DUMP_DEVICE
   example: lf S00DDUMP
2. Expand the table file(s)
   > expand <compressed> <uncompressed> <volume_name> text
   example: expand cellular_com cellular$ s00ddump text
   Note: repeat for each table file
3. List the volume again
   > lf <volume_name>
   example: lf S00DDUMP
4. Delete the compressed file(s)
   > ddf <compressed>
   example: ddf cellular_com
   Note: repeat for each compressed file
5. List the volume again
   > lf <volume_name>
   example: lf S00DDUMP
6. Quit the DISKUT level
   > quit

Note: This step causes the SWUPGRADE process to pause until the user enters GO, RESUME or CONTINUE on the ACT_terminal. After performing the SWUPGRADE instructions, remove the PAUSE that was inserted after this step. To do this perform the following on the ACT_terminal:

> **go**
> **remove pause AFTER step RESTORE_DISK_VOLUME**
> **go**

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

Step: CHECK_LOGS

Displays a count of logs in the Logutil buffer since the start of the process. The type of logs displayed is determined by the input to environment variable: **LOGS**.

IMPORTANT: Use Logutil commands to display the contents of all logs listed. If traps exist, also display full trap information.

Step: DISABLE_AUTOIMAGE

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

Step: SET_OFFICE_TUPLES

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

Step: DISABLE_PRSM_AUDIT_ACT

This step attempts to STOP and DELAY all PSRM processes that are bound into the PRSM scheduler. Performs the equivalent:
AUTOPROC ALL STOP;AUTOPROC ALL DELAY

---

6 **Inst/INACT** The following step will pause before dropping sync on the SuperNode CM/SLM. When ready to drop sync, the Installer must JAM the inactive CM using the inactive-side RTIF before the step can continue.

Step: DROP_SYNC *(CM/SLM)*

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

Continue the SWUPGRADE process by typing:

> go

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

Step: SPLIT_AND_LOADMATE *(XA-Core)*

This step will instruct the user to obtain permission to split the switch, then pause to wait for the user to enter GO to continue. When the user enters GO, the process will then split the switch and load the Inactive side with the SN undatafilled load file from either tape or disk. This step reads the LDMATE_IMAGE variable to determine which device to use in loading the SN undatafilled software image.

Continue the SWUPGRADE process by typing:

> go

Step: DIRP_QUERY

This step displays the results of a query of DIRP sub-systems AMA, OM, JF and DLOG.

Step: LOAD_MATE *(CM/SLM)*

This step loads the inactive CM with the SN undatafilled image from either tape or disk. Reads LDMATE_IMAGE variable to determine which device to use in loading the new software image.

Step: VERIFY_DSLIMIT

This step ensures that there is at least 100k of free sfdev on both active and inactive processors. If less than 100k, then 100k will be added to the current dsmax value in table dslimit.

Note: This step fails for the following reasons

- unable to access the storefs tuple
- if more than 96% of the total data store is unavailable
- unable to update field dsmax

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

Step: COPY_FILES_FROM_SLM *(CM/SLM)*
or
Step: COPY_FILES_FROM_DUMP_DEVICE *(XA-Core)*

This step copies the files MATCHNODES, DIALUP_TERMS, and MAP_DEVICE from the DUMP_DEVICE variable to SFDEV. These files are used by the NODEINFO_DMOPRO, NODEINFO_DELTA, and BUILD_IOC_SLM_DMOPRO_FILE *(CM/SLM)* or BUILD_DIALUP_TERMS_DMOPRO_FILE *(XA-Core)* steps.

Note: If the MAP tuple in table TERMDEV is node_no 8, then file MAP_DEVICE was not created during the SWUPGRADE SNSE Phase and the following warning is displayed:

WARNING: File MAP_DEVICE does not exist on specified volume.

Step: BUILD_IOC_SLM_DMOPRO_FILE *(CM/SLM)*
or
Step: BUILD_DIALUP_TERMS_DMOPRO_FILE *(XA-Core)*

This step creates the dmopro file DIALUP_TERMS which will contain the IOC, SLM* and TERMDEV information needed to ensure proper datafill on the undatafilled SN. This information is used by step SET_DATE_AND_LOGMSG.

*applicable to SuperNode CM/SLM only

Step: DUMP_INV_TABLES

This step extracts the datafill from the following tables:
CMSHELF* MSINV MSCDINV MSPTINV MSILINV MSFWLOAD ENINV ENCDINV IOC SLM* IMAGEDEV LIMINV LIMCDINV LIMPTINV SUSHELF NIUINV RLOGTAB LTCINV TMINV LMINV DCMINV SDMINV PMLOADS PADNDEV APINV FPDIPINV NETWORK NETJUNCT

*applicable to SuperNode CM/SLM only

Step: DUMP_LIUINV_TABLE

This step performs the CI command sequence:

DUMPTAB LIUINV EXTERNAL SFDEV TOTAL PUT LIUINV$

In the event this step fails to properly execute the commands, these commands can then be executed manually from the CI prompt.

Continue the SWUPGRADE process by typing:

> go

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

Step: DUMP_XSGDEF_TABLE *(Not applicable to GSM loads)*

This step performs the CI command sequence:

DUMPTAB XSGDEF EXTERNAL SFDEV TOTAL PUT XSGDEF$

In the event this step fail to properly execute the commands, these commands can then be executed manually from the CI prompt.

Continue the SWUPGRADE process by typing:

> go

Step: NODEINFO_MAKEDMOPRO

This step performs the CI command sequence:

RETROFIT DUMP;NODEINFO MAKEDMOPRO MATCHNODES;
QUIT;RETROFIT CLEAR

In the event this step fail to properly execute the commands, these commands can then be executed manually from the CI prompt.

Continue the SWUPGRADE process by typing:

> go

Step: NODEINFO_DELTA

This step performs the CI command sequence:

RETROFIT DUMP;NODEINFO DELTA MATCHNODES;
QUIT;RETROFIT CLEAR

In the event this step fail to properly execute the commands, these commands can then be executed manually from the CI prompt.

Continue the SWUPGRADE process by typing:

> go

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

Step: MATELINK_RTS

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

Step: MS_CHECK

This step ensures that the current MS loads are compatible with the Inactive side load.

Step: SEND_SFDEV_FILES

This step copies files in SFDEV on the Active processor to SFDEV on the Inactive processor. Load files, patch files, and empty files will not be copied.

Step: SET_DATE_AND_LOGMSG

This step informs the user to perform the following:

1. Login on the inactive (mate) side.
2. Set date using SETDATE CI command.
3. List store file and read file RTS_DIALUPS.

Example:

```
> mateio;matelog <trace_device>
   where <trace_device> is the INACT terminal
mate> admin admin   or   operator operator
mate> setdate <dd> <mm> <yyyy>
mate> listsf all;read RTS_DIALUPS
mate> logout
```

Note: This step causes the SWUPGRADE process to pause until the user enters GO, RESUME or CONTINUE on the ACT_terminal. After performing the SWUPGRADE instructions, remove the PAUSE that was inserted after this step. To do this perform the following on the ACT_terminal:

```
> go
> remove pause AFTER step SET_DATE_AND_LOGMSG
> go
```

—continued—

Procedure 3
SWUPGRADE Commissioning Phase (continued)

Step: MATE_RESTART_RELOAD

This step executes an inactive side (MATE) restart. The user should always confirm the mate CPU is now flashing A1 prior to continuing.

Step: PRINT_SWUPGRADE_REPORT

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

Description of the report columns:

Step name: The name of the step.
Sincelast: Elapsed time between previous and this step.
Start: Start time of this step.
Elapsed: The time it took to execute this step.
Return code: The final status of the step after completion.

Possible values for the return code are:

success: Step executed successfully.
pause_fail: The step failed and was re-executed.
pause_repeat: The step needed to be executed more than once.
pause_skip: The step caused a pause but was not re-executed.

Continue the SWUPGRADE process by typing:

> go

Step: PROCESS_COMPLETE

This step informs the user that the commissioning phase has been completed. The user must enter GO to continue and reset the SWUPGRADE process. When complete, this step reminds the user to quit the SWUPGRADE increment.

Complete the SWUPGRADE process by typing:

> go
> quit all

12.1.4 Procedure 4 – Copy files to SN UDF

1 **App/INACT SN** Login to the Inactive (mate) side of the SuperNode and set STOREFS in table DSLIMIT to a value that corresponds to that on the Active side. This value should be at least 1000000.

```
> MATEIO;MATELOG <device>
```
where <device> is the name of the Inactive terminal.

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

```
mate> OPERATOR OPERATOR
or
  ADMIN ADMIN
```

```
mate> TABLE DSLIMIT;OVE;VER OFF
mate> RWOK ON
mate> POS STOREFS
mate> CHANGE 2 1000000
mate> QUIT
mate> LOGOUT
```

Note: A value higher than '1000000' may be required.

---

2 **App/ACT SN** On the Active side of the SuperNode, matecopy the following files to the Inactive side SFDEV.

a. If any of the following Installation test files exist in SFDEV on the Active side of the SuperNode, matecopy them to the Inactive side SFDEV:

```
> MATECOPY LINK_RES
> MATECOPY SNODE_CUT
> MATECOPY SHELL1$LD
```

b. If applicable, matecopy the following S/W Delivery process files:

```
> MATECOPY SITEINFO
> MATECOPY FEATDATA
```

Note: If applicable, it may be necessary to download these files.

c. If applicable, matecopy any patches for the SN UDF load:

```
> MATECOPY <filename$patch>
```

Note: Normally the patch files are identified and downloaded during the final Site Ready check. If necessary, reference the final Site Ready Report.

—continued—

Procedure 4
Copy files to SN UDF (continued)

3 **App/ACT SN** If the SNSE to SN Conversion process modules are not restored to disk, they must be copied to SFDEV on the SN UDF. On the Active side of the SuperNode, matecopy all of the SNSE to SN Conversion process modules to the Inactive side SFDEV.

```
> MATECOPY <module_file_name>
```

For SuperNode CM/SLM:

```
Repeat for the following module files:

RTSDRWRS$LD*
RETTABX$LD
RETROUI$LD
RETROCI$LD
RETLINES$LD*
BSYALLUI$LD
BSYALLEN$LD
BSYALLDH$LD*
BSYALLCR$LD
BSYALLC7$LD
BSYALLOP$LD
```

OR

For SuperNode XA-Core:

```
Repeat for the following file names:

XARTSDRW$LD*
XARETXFR$LD
XARETUI$LD
XARETRCI$LD
XARETLNS$LD*
BSYALLUI$LD
BSYALLEN$LD
BSYALLDH$LD*
BSYALLCR$LD
BSYALLC7$LD
BSYALLOP$LD
```

*Not required for GSM/MTX loads

12.1.5 Procedure 5 – SWACT to SN UDF

1 **App/ACT SN** Perform the following on the active side of the SuperNode to force activity to the inactive CPU (the SN UDF load).

For SuperNode CM/SLM:

a. Have the on-site Installer release the jam on the inactive RTIF.

b. Perform the following on the Active terminal.

```
> MATEIO;MATERESET
> YES                                          {for confirmation}

> MAPCI NODISP;MTC;CM

> SWACT FORCE

> YES                                          {for confirmation}

NOTE: A COLD Restart will occur and activity will
switch to the SN UDF load.
```

Example:

```
=====================================
    COLD Restart from Command on CPU 0
    ***SOS COLD restart no. 2 at AUG-07 12:45:07.
=====================================
```

For SuperNode XA-Core:

a. Login to the Inactive side and set the AUTO_UNSPLIT status to OFF.

```
> MATELINK RTS
> MATEIO;MATELOG <device>
```

where <device> is the name of the Inactive terminal.

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

mate> OPERATOR OPERATOR

 or

Enter username
Mate> OPERATOR

Enter password
Mate> OPERATOR
```

—continued—

Procedure 5
SWACT to SN UDF (continued)

```
Mate> TASTOOLCI

TASTOOLCI:

Mate> AUTO_UNSPLIT_OFF
```

Example of system response:

```
WARNING: Automatic unsplitting on active side
restarts while in split mode is disabled.

Mate> QUIT
Mate> LOGOUT
```

b. On the Active side, set the AUTO_UNSPLIT status to OFF.

```
> TASTOOLCI

TASTOOLCI:

> AUTO_UNSPLIT_OFF
```

Example of system response:

```
WARNING: Automatic unsplitting on active side
restarts while in split mode is disabled.
```

c. Switch activity to the SN UDF.

```
> MATEIO;MATERESET
> YES                                          {for confirmation}

> TASTOOLCI

TASTOOLCI:

> FORCEINACTIVE
> YES                                          {for confirmation}

NOTE: A COLD Restart will occur and activity will
switch to the SN UDF load.
```

Example:

```
=======================================
    COLD Restart from Command on CPU 0
    ***SOS COLD restart no. 2 at AUG-07 12:45:07.
=======================================
```

***Note*:** If the “TASTOOLCI ACCESS has expired” message is received, contact Nortel Networks support for the TASTOOLCI ACCESS password.

12.1.6 Procedure 6 – Load Modules on SN UDF

1 **App/ACT SN** On the SuperNode, login to the SN UDF load.

```
$<break>
?LOGIN
Enter username and password

> OPERATOR OPERATOR
or
  ADMIN ADMIN
```

Note: Only one device will be available for login to the SuperNode.

---

2 List the storage device (SFDEV or disk) containing the SNSE to SN Conversion process modules.

```
> LISTSF ALL
or
> DISKUT
> LF <volume_name>
```

where <volume_name> is disk volume where modules are restored

---

3 LOAD the following modules.

For SuperNode CM/SLM:

```
> LOAD BSYALLUI
> LOAD RETROUI
```

OR

For SuperNode XA-Core:

```
> LOAD BSYALLUI
> LOAD XARETUI
```

---

4 Verify each of the modules loaded successfully.

For SuperNode CM/SLM:

```
> QUERY BSYALLUI
> QUERY RETROUI
```

OR

For SuperNode XA-Core:

```
> QUERY BSYALLUI
> QUERY XARETUI
```

Note: Each query should show module information. If a module failed to load, troubleshoot the problem. It may be necessary to erase the defective module and download/restore and load the module again.

```
> QUIT
```

12.1.7 Procedure 7 – Volume Name Mapping

ATTENTION
This procedure "Volume Name Mapping" is only applicable for SNSE-CM/SLM to SN-XA Conversions.

1 **App/ACT SN** On the SuperNode, turn up the MAP device to provide access for the on-site Lead Installer.

```
> MAPCI;MTC;IOD;IOC 0;CARD 2;BSY 0;RTS 0
> QUIT ALL
```

---

2 **App/INACT SN** On the SuperNode, verify table TERMDEV on the Inactive (mate) side matches the Active side. On the Active side list the contents of table TERMDEV:

```
> TABLE TERMDEV;FORMAT PACK;LIS ALL
> QUIT
```

Login to the Inactive (mate) side of the SuperNode and verify table TERMDEV matches the Active side.

```
> MATEIO;MATELOG <device>
```
where <device> is the name of the Inactive terminal.

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

```
mate> OPERATOR OPERATOR
```
or
```
  ADMIN ADMIN
```

```
mate> TABLE TERMDEV;FORMAT PACK;LIS ALL
```

Note: If necessary, on the Inactive side change table so that it matches Active side (including fields BAUDRT and/or INTYP).

---

3 **App and Inst/ACT SN** Hand the office over to the on-site Lead Installer who will perform the Volume Name Mapping procedure per IM 78-0931. This procedure will map the volume names from SLM disks to XA-Core volume names.

Note: A Cold Restart will occur on the SuperNode XA-Core and MAP access to the SuperNode will be suspended for the duration of this procedure.

---

4 **App/ACT SN** After the Lead Installer completes the Volume Name Mapping procedure, verify that the SESNCOM tools are suspended on both the SNSE and the SuperNode.

12.1.8 Procedure 8 – SWUPGRADE Undatafilled Phase

1 **App/ACT SN** Begin the process by entering the SWUPGRADE increment and initializing the SE2SN platform.

> **swupgrade SE2SN**

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

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

---

2 Start the SWUPGRADE process on IOC 0 device.

> **start**

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

---

3 Set up environment variables

Step: SETUP_ENV_VARS

Step SETUP_ENV_VARS prompts the user for values and sets the environment variables necessary to perform the SWUPGRADE. Enter the requested values on the IOC 0 device.

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

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

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

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

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

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

—continued—

Procedure 8
SWUPGRADE Undatafilled Phase (continued)

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

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

Recommended setting is the device currently logged onto.

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

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

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

Variable: **LOGS** [default logs are TRAP SWERR CM CMSM MS for CM/SLM or TRAP SWERR XAC MS NET ENET for XA-Core]

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

Recommended setting is the default: logs TRAP SWERR CM CMSM MS (for CM/SLM) or logs TRAP SWERR XAC MS NET ENET (for XA-Core)

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

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

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

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

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

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

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

Value: <printer name> or SINK

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

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

—continued—

Procedure 8
SWUPGRADE Undatafilled Phase (continued)

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

Holds the name of the CM (front-end) that the SWUPGRADE steps will be executed on. Different steps are executed depending on if the CM is a SNSE, SN COMMISSIONING, or SN UN-DATAFILLED.

Recommended setting is SN_UDF.

Value: <cm>

Where <cm> is SNSE, SN_COMMIS, or SN_UDF

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

Holds the name of the device <DISK> or <TAPE> that was previously used to store the retrofit files onto.

Recommended setting is the DUMP_DEVICE name previously used to dump the retrofit files during the SN_COMMIS phase.

Value: <volume_name>

---

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

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

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

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

> **swupgrade**
> **disp var <variable_name>**
> **disp var all**

—continued—

Procedure 8
SWUPGRADE Undatafilled Phase (continued)

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

Observe the Trace_device to monitor the automatic process.

When prompted enter any additional commands on the ACT_terminal.

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

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

> **go**

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

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

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

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

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

Step: DISPLAY_SITE_INFO

This step verifies the platform type by comparing the CURRENT_PLATFORM environment variable supplied by the user during the SETUP process and various table datafill.

—continued—

Procedure 8
SWUPGRADE Undatafilled Phase (continued)

Step: LOAD_RETRO_MODS

This step creates a commands file in SFDEV that will automatically load all of the modules necessary to perform the SNSE-SN conversion and gives instructions for:

1. Listing the device that contains the conversion modules
   for example: SFDEV, disk volume, or tape.
2. Listing and reading the RETRO_MODS file. When read, this file will load all the needed modules.

Example:
> diskut;lf <device_name>
where <device_name> is the disk volume or tape
> listsf all
> read RETRO_MODS
> quit

Note: This step causes the SWUPGRADE process to pause until the user enters GO, RESUME or CONTINUE on the ACT_terminal. After performing the SWUPGRADE instructions, remove the PAUSE that was inserted after this step. To do this perform the following on the ACT_terminal:

> **go**
> **remove pause AFTER step LOAD_RETRO_MODS**
> **go**

Step: TRAPINFO

This step performs the equivalent of the CI command "TRAPINFO".

Continue the SWUPGRADE process by typing:

> go

Step: TRAPINFO_CLEAR

This step performs the equivalent of the CI "TRAPINFO CLEAR".

—continued—

Procedure 8
SWUPGRADE Undatafilled Phase (continued)

Step: VERIFY_DSLIMIT

This step ensures that there is at least 100k of free sfdev on both active and inactive processors. If less than 100k, then 100k will be added to the current dsmax value in table dslimit.

Note: This step fails for the following reasons:

- unable to access the storefs tuple
- if more than 96% of the total data store is unavailable
- unable to update field dsmax

Step: SET_DONOT_MOVE_TABS

This step sets certain tables not to move during the normal table transfer process.

ATTENTION: *****If office is converting from JNET to ENET*****
For SNSE CM/SLM offices equipped with JNET ***and*** converting to SuperNode CM/SLM equipped with ENET, manually set the following two tables not to move:

> **table dart;dartedit;access all;rwok on;ove;ver off**
> **pos NETWORK;cha drarea n**
> **pos NETJUNCT;cha drarea n**
> **quit;quit**

IMPORTANT: DO NOT set tables NETWORK and NETJUNCT “not to move” unless office is converting from JNET to ENET.

After step SET_DONOT_MOVE_TABS is complete, continue by typing:

> go

—continued—

Procedure 8
SWUPGRADE Undatafilled Phase (continued)

Step: STOPXFR_POINTS

This step sets stop points within the table transfer process. There should be stops for the following tables:

NNASST
LIUINV
TRKMEM

ATTENTION: This step will not set a stop point for table NNASST if the MAP tuple in table TERMDEV is node_no 8. A stop for table NNASST is needed only if the MAP tuple is not node_no 8 and SFDEV file MAP_DEVICE was created during the previous SWUPGRADE SNSE Phase step DUMP_TERMINAL_INFO.

Note: This step causes the SWUPGRADE process to pause until the user enters GO, RESUME or CONTINUE on the ACT_terminal. After performing the SWUPGRADE instructions, remove the PAUSE that was inserted after this step. To do this perform the following:

> **go**
> **remove pause AFTER step STOPXFR_POINTS**
> **go**

Step: TABXFR_RESTORE

This step informs the user to perform the following:

1. TABXFR; SETUP ACTREST
2. RMOUNT <dump_device>
3. Setup STOPIF and LIMIT parameters.
4. Start TABXFR by performing STARTXFR.
5. Ensure all tables were successfully restored.

Perform the following to set up TABXFR:

> **tabxfr;setup actrest**
> **rmount <dump_device>**
> **stopif 1;limit 25**
> **status**

—continued—

Procedure 8
SWUPGRADE Undatafilled Phase (continued)

The table VIRTGRPS workaround is not needed. Perform the following to remove the stopxfr for table TRKMEM:

> **stopxfr clear before trkmem**

***ATTENTION*:** Some S/W Delivery markets require the use a SITEINFO file. If applicable, perform the following:

> **read siteinfo**

Perform the following to start TABXFR:

> **startxfr**

ATTENTION: After restarts the following commands must be performed to continue the TABXFR process:

<break>
?login
> **admin admin**
> **tabxfr;status**
> **traceci me**
> **rmount <dump_device>**
> **startxfr**

ATTENTION: If process stops as requested before table NNASST, perform the following actions:

> **mapci nodisp;mtc;iod;ioc 0;card 2;bsy 0;offl 0**
> **quit mapci**
> **table termdev**
> **pos map**
> **del**
> **y** *{for confirmation}*
> **y** *{for confirmation}*
> **quit**
> **stopxfr clear before NNASST**
> **status**
> **startxfr**

—continued—

Procedure 8
SWUPGRADE Undatafilled Phase (continued)

***ATTENTION*:** Some S/W Delivery markets require the use a FEATDATA file during TABXFR. When TABXFR continues and if applicable, ensure the FEATDATA file processes successfully. If the FEATDATA file fails to process, do not continue until the problem is resolved.

When stopping as requested before table LIUINV, perform the following actions:

> **table ofcstd;rwok on;ove;ver off**
> **pos dump_restore_in_progress;cha 2 n**
> **quit**
> **listsf all**
> **dmopro liuinv$**
> **dmopro xsgdef$** *{Not applicable to GSM loads}*
> **table dart;dartedit;access all;rwok on;ove;ver off**
> **pos liuinv;cha drarea n**
> **pos xsgdef;cha drarea n** *{Not applicable to GSM loads}*
> **quit;quit**
> **table ofcstd;rwok on;ove;ver off**
> **pos dump_restore_in_progress;cha 2 y**
> **quit**
> **stopxfr clear before liuinv**
> **status**
> **startxfr**

After TABXFR completes and all tables have successfully restored, quit out of the TABXFR level:

> **quit**

ATTENTION: After TABXFR completes logs must be checked to ensure switch stability. The following log types should be checked: TRAP SWERR CM CMSM MS for CM/SLM or TRAP SWERR XAC MS NET ENET for XA-Core. If necessary, check other log types as well.

> **logutil;**
> **open <log_name>;back all** *{repeat for each log type}*
> **quit**

If any log indicates a problem, investigate and resolve before continuing.

—continued—

Procedure 8
SWUPGRADE Undatafilled Phase (continued)

After step TABXFR_RESTORE is complete, continue by typing:

> swupgrade
> go

Step: VERIFY_DUMP_RESTORE

This step verifies that all tables have completed (not in the in_progress or not_started states) before the activity switch can occur. If all tables are not in the completed state, a file containing the table states is generated and user is informed to print the tabstates file.

Failure Paths:
- unable to create the tabstates file
- unable to write a record to the tabstates file
- unable to close the file

Step: SYNC *(CM/SLM)*

This step will first prompt the user for confirmation and wait until RESUME, GO, or CONTINUE is entered. Once confirmation is received, the step brings the switch processors back into SYNC mode.

Continue the SWUPGRADE process by typing:

> go

Step: UNSPLIT_SWITCH *(XA-CORE)*

This step will first prompt the user for confirmation and wait until RESUME, GO, or CONTINUE is entered. Once confirmation is received, the step will return the XA-Core processors and shared memory to duplex mode.

Continue the SWUPGRADE process by typing:

> go

—continued—

Procedure 8
SWUPGRADE Undatafilled Phase (continued)

Step: UPDATE_REMOTE_TERM_EQUIP *(CM/SLM)*

This step sets the office parameter REMTERMEQP in table OFCENG to 'N'.

Step: PRINT_SWUPGRADE_REPORT

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

Description of the report columns:

Step name: The name of the step.
Sincelast: Elapsed time between previous and this step.
Start: Start time of this step.
Elapsed: The time it took to execute this step.
Return code: The final status of the step after completion.

Possible values for the return code are:

success: Step executed successfully.
pause_fail: The step failed and was re-executed.
pause_repeat: The step needed to be executed more than once.
pause_skip: The step caused a pause but was not re-executed.

Step: PROCESS_COMPLETE

This step informs the user that the undatafilled phase has been completed and instructs the user to take an IMAGE at this point. The user must enter GO to continue and reset the SWUPGRADE process. When complete, this step reminds the user to quit the SWUPGRADE increment.

> go
> quit all

Note : *(for XA-Core)* The switch may not be UNSPLIT when the PROCESS_COMPLETE message is output. It takes approximately 20 minutes to UNSPLIT the system and return the shared memory to duplex mode. Prior to attempting an image dump, observe the SM level of the MAP and ensure the system is UNSPLIT.

12.1.9 Procedure 9 – Dump Office Image SN

1 **Inst/SN** After completing the SWUPGRADE Undatafilled Phase, dump an office image of the SuperNode to disk and back up the image file to tape cartridge. This important step should not be attempted until the SuperNode is in SYNC *(CM/SLM)* or UNSPLIT *(XA-Core).*

---

2 ***Note:*** For SuperNode XA-Core offices, the switch may not be UNSPLIT until approximately 20 minutes after step UNSPLIT_SWITCH completed. Prior to attempting the office dump, monitor the SM level of the MAP to determine when the shared memory is UNSPLIT and the SYNC state is in duplex mode.

```
> MAPCI;MTC;XAC;SM
```

System Response: `SYNCSTATE : DUPLEX`

```
> QUIT ALL
```

---

3 ***IMPORTANT:*** Do not begin the PRESWACT Procedures until a successful office image of the SuperNode has been completed.

---

13 PRESWACT procedures

The SNSE to SuperNode Conversion continues when the Applicator begins the PRESWACT phase. It is assumed that the SNSE front-end is in-service with no faults and is in-SYNC. The PRESWACT phase is performed with the SNSE remaining in-SYNC.

ATTENTION
Depending on the type of conversion being performed,
SNSE-CM/SLM to SN-CM/SLM or
SNSE-XA to SN-XA or SNSE-CM/SLM to SN-XA,
some steps may not apply.
The Applicator will need to pay close attention to the instructions provided in the following section, particularly when the process differences require additional procedures or the omission of procedures.

13.1 Procedure

13.1.1 Procedure 1 – PRESWACT on the SNSE

IMPORTANT: For ***SNSE-CM/SLM to SN-CM/SLM and SNSE-XA to SN-XA Conversions***, the SNSE PRESWACT files are dumped to a disk volume and then backed up to tape on the SNSE. The tape will be used during the PRESWACT on the SN procedure to restore the SNSE PRESWACT files to disk on the SuperNode.

IMPORTANT: For ***SNSE-CM/SLM to SN-XA Conversions***, the SNSE PRESWACT files are restored to disk on the SuperNode during the PRESWACT Data Transfer procedure via the MATECORELINK and does not require the use of a tape.

—continued—

Procedure 1
PRESWACT on the SNSE (continued)

The PRESWACT on the SNSE procedure involves using a dump device to store the SNSE PRESWACT files. The dump device used must be empty. The recommended naming convention for the dump device is:

S00DPSWA (for CM/SLM)

or

F02LPSWA (for XA-Core)

1 **Site/SNSE** At this time remind the Site to perform all TEST CALLS that were identified ahead-of-time. The test calls are necessary both *before and after* cutover to verify the performance of the newly installed SuperNode and to rule out any uncertainty should problems occur during a calling situation. Instruct the Site to refer to the *Test Call Scripts*.

—continued—

Procedure 1
PRESWACT on the SNSE (continued)

ATTENTION

The following step is not applicable for SNSE-CM/SLM to SN-XA Conversions. If performing a SNSE-CM/SLM to SN-XA Conversion, skip to step 5 to begin the PRESWACT on the SNSE.

2 **App/SNSE** Perform the following to begin the PRESWACT process:

```
> QUIT ALL
> RETROFIT CLEAR
> RETROFIT DUMP
> PRESWACT
```

System Response: Please enter the dump device to be used:

Enter volume name that will be used to store the SNSE PRESWACT files (Example: S00DPSWA for CM/SLM or F02LPSWA for XA-CORE).

IMPORTANT: This volume must be an empty volume.

System Response: Enter target BCS of SuperNode:

Enter number that corresponds to the target BCS level for this SNSE to SuperNode Conversion. This information can be obtained from tuple BCS_NUMBER in table OFCSTD on the SuperNode.

This will start the PRESWACT process

Note: PRESWACT will execute a series of steps and displays them on the Trace_device. The individual steps can be displayed and if necessary manually executed. When PRESWACT finishes, all of the PRESWACT steps will be displayed with a status of "Complete." If during PRESWACT a step fails to complete, the process will stop and give additional information. Use the information given to investigate and correct the problem. To continue PRESWACT, type:

```
> RETROFIT DUMP;PRESWACT
```

—continued—

Procedure 1
PRESWACT on the SNSE (continued)

ATTENTION
The following step "PART A - Compress File(s)" is not applicable for SNSE-CM/SLM to SN-XA Conversions.

3 **App/SNSE** After PRESWACT on the SNSE completes, compress any table file(s) that contain more than 32767 records. Perform Part A of the following workaround to compress any table file(s) with more than 32767 records.

PART A – Compress File(s):

a. List the disk volume used to store the SNSE PRESWACT files and identify any table file(s) that contain more than 32767 records.

```
> QUIT ALL
> DISKUT;LF <volume_name>
```
where <volume_name> is the volume used to store the SNSE PRESWACT files

b. Compress any table file(s) that contain more than 32767 records.

```
>COMPRESS <table_file> <table_file_com> <volume_name> text
```

Example (table CELLULAR is used):

compress cellular$ cellular_com S00DPSWA text *(for CM/SLM)*
or
compress cellular$ cellular_com F02LPSWA text *(for XA-Core)*

Note: Repeat this command for each file with more than 32767 records.

c. Delete the original table file name(s) with more than 32767records.

```
> LF <volume_name>
> DDF <table_file>
> YES                                                    {for confirmation}
```

example (table CELLULAR is used):

ddf cellular$

Note: Repeat this command for each file with more than 32767 records.

d. Quit the disk utility level.

```
> QUIT ALL
```

PART B – Uncompress File(s):

The second part of this workaround will be performed during the "PRESWACT on the SuperNode" procedure.

—continued—

Procedure 1
PRESWACT on the SNSE (continued)

ATTENTION
The following step is not applicable for
SNSE-CM/SLM to SN-XA Conversions.

4 **App/SNSE** After completing PRESWACT on the SNSE and compressing any table files with more than 32767 records, perform the following to back-up the SNSE PRESWACT files to tape.

a. Have the on-site Installer put a blank tape into the SNSE tape drive per the following:

For SNSE CM/SLM:
Place a SLM cartridge into a SNSE tape drive that corresponds to the disk volume that was used to store the SNSE PRESWACT files.

For SNSE XA-Core:
Place a DAT cartridge into an available SNSE tape drive.

Note: This tape will be used to compare (delta) the office data between SNSE and SuperNode loads. This will be referred to as the SNSE PRESWACT Dump tape and should be labeled "PSDUMP."

b. List the disk volume used to store the SNSE PRESWACT files.

```
> QUIT ALL
> DISKUT;LF <volume_name>
```
where <volume name> is the volume used to store the SNSE PRESWACT files

c. Insert the tape device used to back-up the PRESWACT files.

```
> IT <tape_device> WRITELABEL <label>
```
where <tape_device> is S00T or S01T for CM/SLM and corresponds to the disk volume used to store the SNSE PRESWACT files, and F02UTAPE or F17UTAPE for XA-Core, and <label> is PSDUMP

```
Examples:
 IT S00T WRITELABEL PSDUMP
or
 IT F02UTAPE WRITELABEL PSDUMP
```

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

—continued—

Procedure 1
PRESWACT on the SNSE (continued)

d. Back-up the SNSE PRESWACT files to tape per the following:

For SNSE CM/SLM:

> BA STDVOL <**volume_name**> <**tape_device**> <**label**>
where <volume_name> is the disk volume used to store the SNSE PRESWACT files, and <tape_device> is the device used in step b, and <label> is the tape label

```
i.e. BA STDVOL S00DPSWA S00T PSDUMP
```

For SNSE XA-Core:

> SCANF <**volume_name**> COPY <**tape_device**>
where <volume_name> is the disk volume used to store the SNSE PRESWACT files, and <tape_device> is the device used in step b

```
i.e. SCANF F02LPSWA COPY F02UTAPE
```

e. Eject the tape:

> ET <**tape_device**>
where <tape_device> is the device used in step b

f. Have the Installer remove the SNSE PRESWACT Dump tape from the SNSE and label it PSDUMP. Place this tape cartridge into a disk drive unit on the SuperNode that corresponds to the disk volume that will be used to restore the SNSE PRESWACT files.

—continued—

Procedure 1
PRESWACT on the SNSE (continued)

ATTENTION

The following step is only applicable for SNSE-CM/SLM to SN-XA Conversions. DO NOT perform this step if conversion type is SNSE-CM/SLM to SN-CM/SLM *or* SNSE-XA to SN-XA.

5 **App and Inst** Hand the office over to the on-site Installer who will perform the first part of the PRESWACT Data Transfer procedure per IM 78-0931. This procedure will bring the MATECORELINK in service in preparation for PRESWACT on the SNSE.

Note: A Cold Restart will occur on the SuperNode XA-Core and MAP access to the SuperNode will be suspended for the duration of this procedure.

a. **App/SNSE** After the on-site Installer completes the first part of the PRESWACT Data Transfer and prior to beginning PRESWACT on the SNSE, ensure the MATECORELINK is in-service.

```
> QUIT ALL
> SESNCOM
> MATECORELINK STATUS
> QUIT ALL
```

IMPORTANT: If the MATECORELINK is not in-service consult with the on-site Installer. Do not continue unless the MATECORELINK is in-service.

b. On the SNSE, perform the following to override certain device status applications during STATUSUPDATE.

```
> RETROFIT CLEAR
> RETROFIT DUMP
> MODCHECK OVERRIDE
```

Override the following two device status applications by entering the number beside the application in the output table and entering 'YES' for confirmation:

MS – Interface Cards – Status
MS – FBUS – Status

Note: It will be necessary to enter '1' and "Go To Next Application Type" (i.e. scroll to next page) to override the applications.

CAUTION: Failure to override both of these device status applications will cause the STATUSUPDATE step to fail during PRESWACT.

—continued—

Procedure 1
PRESWACT on the SNSE (continued)

c. After overriding both device status applications, enter '0' to quit the MODCHECK OVERRIDE level.

```
> 0
```

d. On the SNSE, begin the PRESWACT process.

```
> PRESWACT
```

System Response: Please enter the dump device to be used:

Enter volume name that will be used to store the SNSE PRESWACT files (Example: S00DPSWA or S01DPSWA).

IMPORTANT: This volume must be an empty volume.

System Response: Enter target BCS of SuperNode:

Enter number that corresponds to the target BCS level for this SNSE to SuperNode Conversion. This information can be obtained from tuple BCS_NUMBER in table OFCSTD on the SuperNode.

This will start the PRESWACT process

e. ***Note***: PRESWACT will execute a series of steps and displays them on the Trace_device. The individual steps can be displayed and if necessary manually executed. When PRESWACT finishes, all of the PRESWACT steps will be displayed with a status of "Complete." If during PRESWACT a step fails to complete, the process will stop and give additional information. Use the information given to investigate and correct the problem. To continue PRESWACT, type:

```
> RETROFIT DUMP;PRESWACT
```

13.1.2 Procedure 2 – Check Logs on SNSE

1 **App/SNSE** After PRESWACT on the SNSE completes, logs must be checked to ensure switch stability. The following log types should be checked: TRAP SWERR CM CMSM MS for CM/SLM or TRAP SWERR XAC MS NET ENET for XA-Core. If necessary, check other log types as well.

```
> LOGUTIL
> OPEN <log_name>;BACK ALL   {repeat for each log type}
> QUIT ALL
```

If any log indicates a problem, investigate and resolve before continuing.

13.1.3 Procedure 3 – PRESWACT on the SuperNode

IMPORTANT: For ***SNSE-CM/SLM to SN-CM/SLM and SNSE-XA to SN-XA Conversions***, the SNSE PRESWACT files that were backed up to tape on the SNSE will be restored to disk on the SuperNode.

IMPORTANT: For ***SNSE-CM/SLM to SN-XA Conversions***, the SNSE PRESWACT files will be restored to disk on the SuperNode during the PRESWACT Data Transfer procedure via the MATECORELINK. This process does not require the use of a tape.

1 **App/SN** On the SuperNode determine the disk volume that will used to restore the SNSE PRESWACT files. This volume must be empty.

Note: Consult with the on-site Installer for available disk volumes. Recommended: S00DPSWA (CM/SLM) or F02LPSWA (XA-Core).

---

2 ***ATTENTION:*** **Depending on the type of SNSE to SN Conversion, perform the following to restore the SNSE PRESWACT files to disk on the SuperNode.**

For SNSE-CM/SLM to SN-XA:

App Hand the office over to the on-site Lead Installer who will perform the PRESWACT Data Transfer procedure per IM78-0931. This procedure will transfer the content of volume PSWA from SLM to XA-Core disk. A Cold Restart will occur on the SuperNode XA-Core and MAP access to the SuperNode will be suspended for the duration of this procedure

Note: When the on-site Installer completes the PRESWACT Data Transfer procedure, go to step 5 and begin PRESWACT on the SuperNode.

For SNSE-CM/SLM to SN-CM/SLM and SNSE-XA to SN-XA:

App/SN Restore the SNSE PRESWACT files to the SuperNode disk volume determined in step 1.

a. Insert and list the tape used to restore the SNSE PRESWACT files.

```
> DISKUT
> IT <tape_device>
```

where <tape_device> is S00T or S01T for CM/SLM corresponding to the disk volume determined in step 1, and F02UTAPE or F17UTAPE for XA-Core

```
> LF <tape_device>
```

—continued—

Procedure 3
PRESWACT on the SuperNode (continued)

b. Restore the SNSE PRESWACT files to disk per the following:

For SuperNode CM/SLM:

> RE STDVOL <**volume_name**> <**tape_device**> <**label**>
where <volume_name> is the disk volume determined in step 1, and <tape_device> is the device used in step a, and <label> is the tape label

```
i.e. RE STDVOL S00DPSWA S00T PSDUMP
```

For SuperNode XA-Core:

> SCANF <**tape_device**> COPY <**volume_name**>
where <tape_device> is the device used in step a, and <volume_name> is the disk volume determined in step 1

```
i.e. SCANF F02UTAPE COPY F02LPSWA
```

c. Eject the tape:

> ET <**tape_device**>
where <tape_device> is the device used in step a

d. List the disk volume:

> LF <**volume_name**>
where <volume_name> is the disk volume determined in step 1 used to restore the SNSE PRESWACT files.

e. Quit the disk utility level.

```
> QUIT ALL
```

—continued—

Procedure 3
PRESWACT on the SuperNode (continued)

ATTENTION
The following step "PART B - Uncompress File(s)" is not applicable for SNSE-CM/SLM to SN-XA Conversions.

3 **App/SNSE** After restoring the SNSE PRESWACT files to disk, uncompress (i.e. expand) any file(s) that contain more than 32767 records. If necessary, perform Part B of the following manual workaround.

PART A – Compress File(s):

If applicable, the first part of this workaround is performed during the "PRESWACT on the SNSE" procedure.

PART B – Uncompress File(s):

a. List the disk volume used to restore the SNSE PRESWACT files and identify any compressed table file(s).

```
> QUIT ALL
> DISKUT;LF <volume_name>
```
where <volume name> is the disk volume determined in step 1 and used to restore the SNSE PRESWACT files

b. Expand the table file(s).

```
> EXPAND <table_file_com> <table_file> <volume_name> text
```

Example (table CELLULAR is used):

expand cellular_com cellular$ S00DPSWA text *(for CM/SLM)*
or
expand cellular_com cellular$ F02LPSWA text *(for XA-Core)*

Note: Repeat this command for each compressed table file.

c. Delete the compressed table file name(s).

```
> LF <volume_name>
> DDF <table_file_com>
> Y                                                    {for confirmation}
```

Example (table CELLULAR is used):

ddf cellular_com

Note: Repeat this command for each compressed file.

d. List the volume again used to restore the SNSE PRESWACT files.

```
> LF <volume_name>
> QUIT ALL
```

—continued—

Procedure 3
PRESWACT on the SuperNode (continued)

4 **Inst/SN** For SuperNode CM/SLM offices only, have the on-site Installer jam the Inactive side of the SuperNode.

ATTENTION: This step does not apply to SuperNode XA-Core offices.

From the Inactive RTIF enter:

```
RTIF> \JAM

RTIF> YES                                    {for confirmation}
```

---

5 **App/SN** Drop SYNC (CM/SLM) or Split System (XA-Core).

For SuperNode CM/SLM:

Drop SYNC on the SuperNode.

```
> MAPCI;MTC;CM
> DPSYNC

> YES                                        {for confirmation}
```

Note: Installer must tell Applicator when the Inactive CM is flashing A1.

```
> QUIT MAPCI
```

For SuperNode XA-Core:

Split System on the SuperNode.

```
CI:
> TASTOOLCI

TASTOOLCI:
> SPLIT_SYSTEM

> YES                                        {for confirmation}
```

Note: Installer must tell Applicator when the Inactive side is flashing 00A1.

```
> QUIT
```

—continued—

Procedure 3
PRESWACT on the SuperNode (continued)

6 **App/SN** Perform the following to begin the PRESWACT process:

```
> DISKUT;LF <volume_name>
```

where <volume name> is the disk volume determined in step 1 and used to restore the SNSE PRESWACT files

```
> QUIT
> RETROFIT CLEAR
> RETROFIT RESTORE
> PRESWACT
```

System Response: Please enter a dump device to be used :

Enter volume name that was determined in step 1.

This will start the PRESWACT process.

Note 1: PRESWACT will execute a series of steps and display them on the Trace_device. The individual steps can be displayed and if necessary manually executed. When PRESWACT finishes, all of the PRESWACT steps will be displayed with a status of "Complete." If during PRESWACT a step fails to complete, the process will stop and give additional information. Use the information given to investigate and correct the problem. To continue PRESWACT, type:

```
> RETROFIT RESTORE;PRESWACT
```

Note 2: During step DELTA_TABLES when prompted for DELTA$ERROR, enter the following command:

```
> PRINT DELTA$ERROR
```

Repeat this command each time when prompted for DELTA$ERROR and observe the output result for any discrepancies, then enter the following command to continue the PRESWACT process:

```
> RETROFIT RESTORE;PRESWACT
```

—continued—

Procedure 3
PRESWACT on the SuperNode (continued)

Note 3: During step CM_RESTART, when prompted for confirmation enter the following:

```
> YES
```

After step CM_RESTART completes, perform the following:

```
?LOGIN

Enter username and password

> ADMIN ADMIN
```

---

7 **App/SN** After logging in perform the following to continue PRESWACT:

```
> DISKUT;LF <volume_name>;QUIT
```
where <volume_name> is the disk volume determined in step 1

```
> RWOK ON
> RETROFIT RESTORE;PRESWACT
```

System Response: Please enter a dump device to be used:

Enter the volume name determined in step 1.

This will continue the PRESWACT process

Note: PRESWACT will execute a series of steps and display them on the Trace_device. The individual steps can be displayed and if necessary manually executed. When PRESWACT finishes, all of the PRESWACT steps will be displayed with a status of "Complete." If during PRESWACT a step fails to complete, the process will stop and give additional information. Use the information given to investigate and correct the problem. To continue PRESWACT, type:

```
> RETROFIT RESTORE;PRESWACT
```

ATTENTION: During step RESTORE_OMKEYORD, the following message may occur: ”Could not write to OMORDER Info File.” Ignore this message and ensure all tuples added (i.e. number of tuples failed = 0).

ATTENTION: If step RESTORE_EADAS fails, it will be necessary to compare the table count on the SNSE and the SuperNode. If the table counts match, override the step and continue. Refer to the documented workaround to complete this.

—continued—

Procedure 3
PRESWACT on the SuperNode (continued)

8 **App/SN** After PRESWACT on the SN completes, perform the following:

```
> QUIT ALL
> TABXFR;CANCEL
> YES                                          {for confirmation}
> QUIT ALL
```

---

9 **App/SN** After PRESWACT on the SN completes, logs must be checked to ensure switch stability. The following log types should be checked: TRAP SWERR CM CMSM MS for CM/SLM or TRAP SWERR XAC MS NET ENET for XA-Core. If necessary, check other log types as well.

```
> LOGUTIL
> OPEN <log_name>;BACK ALL    {repeat for each log type}
> QUIT ALL
```

If any log indicates a problem, investigate and resolve before continuing.

---

10 ***IMPORTANT:*** Verify that all in-service elements on the SNSE are put to a SYSB condition on the SuperNode. In addition, ensure that only those Peripheral Modules in the OFFLINE state on the SNSE are also in the OFFLINE state on the SuperNode. Failure to match equipment states on the SNSE and SuperNode will cause an extended outage during the SNSE to SuperNode Conversion.

CAUTION

Failure to put all in-service elements on the SNSE to SYSB on the SuperNode will cause an extended outage when the SuperNode is activated. Failure to ensure only the Peripheral Modules listed as OFFLINE on the SNSE are OFFLINE in the SuperNode will cause delays during system recovery.

FAILURE TO MATCH EQUIPMENT STATES WILL CAUSE AN EXTENDED OUTAGE

13.1.4 Procedure 4 – Prepare PMs for Cutover

To minimize outage time experienced during the cutover, it is important that all Peripheral Modules have Unit 0 active at the time of the cutover. Prepare for this by removing PMs from the REX scheduler and SWACTing all PMs that have Unit 1 active.

1 **App/SNSE** Remove PMs from the REX scheduler.

```
> TABLE OFCVAR;RWOK ON;OVE
> POS NODEREXCONTROL
> CHA
```

Change the "Y" in the tuple to "N" to remove the Peripheral Modules from the Rex Schedule. Do not change any of the other parameters.
Example: >N 0 0 3 30

```
> QUIT
```

---

2 **Inst and Site/SNSE** Have the on-site Installer post all Peripheral Modules from the PM level of the MAP, and verify that Unit 0 is ACTIVE. If not, coordinate with the Operating Company to perform WarmSwact to make Unit 0 active.

Note: This activity should take place during the Operating Company's maintenance window.

13.1.5 Procedure 5 – Pre-Cutover DS30 LPP Link Move

ATTENTION: Ask the on-site Installer if switch is equipped with a LPP *or* a Single Shelf LPP (SSLPP). Procedure 5 will need to be performed if switch is equipped with a LPP. Procedure 5A will need to be performed if switch is equipped with a SSLPP.

All commands in the next procedure will be typed by the software applicator. The software applicator will request the on-site Installer to perform cabling and switchbox related tasks at various points in the procedure. The on-site Installer should reference the appropriate IM procedure for these tasks.

This procedure will move the DS-30 links of LMS 0 of every LPP in the office from the SNSE to the SuperNode. All LMS->MS DS30 links must be integrated into the LPP DS30 Switchboxes for both the SNSE MS and the SuperNode MS (as per IM 78-5144) prior to performing this procedure.

The LPP must be datafilled and offlined on the SuperNode prior to performing this procedure.

Commands will be performed at both the SNSE *and* the SuperNode during this procedure. Pay careful attention as to what switch a particular command should be executed on.

IMPORTANT: At this time verify with the on-site Installer and make sure all PM's have unit 0 active. This activity needs to be completed prior to starting the Pre-Cutover Link Move procedure.

Procedure 5 – Pre-Cutover LPP DS30 Link Move (LIM <lim_no> UNIT 0)

Step	Action	Observation
1	Get the on-site Installer to ensure that the switchboxes are in local mode.	The local LEDs will be illuminated at the switchboxes.
2	Get the on-site Installer to ensure that the switchbox toggles are set to SNSE MS.	The SNSE MS LEDs will be illuminated.
3	Note some commands will be typed at the SuperNode and some commands will be typed at the SNSE during this procedure.	
	-------SUPERNODE --- SuperNode Commands ---SUPERNODE-------	
4	At the SuperNode, enter PM level and post the LIM to be tested: **>MAPCI;MTC;PM** **>POST LIM <lim_no>** where lim_no = number of the LIM having its links tested **> TRNSL 0** Verify that the LIM and FBUS are in OFFL state.	
5	At the SuperNode, enter MS level and busy the MS ports connected to LIM <lim_no> UNIT 0: **>MS;SHELF 0** **>CARD <card_no_A>** **>BSY 0 PORT <port_no_i>** **>BSY 1 PORT <port_no_i>** **>CARD <card_no_B>** **>BSY 0 PORT <port_no_ii>** **>BSY 1 PORT <port_no_ii>** where card_no_A and card_no_B = the numbers of the MS cards that have links to the LMS and port_no_i and port_no_ii are the numbers of the ports connected to LIM <lim_no> UNIT 0. These cards and ports can be determined from LIMPTINV. These ports will be P busy prior to executing the BSY command.	

—continued—

Procedure 5 – Pre-Cutover LPP DS30 Link Move (Continued)

Step	Action	Observation
	---SNSE-------SNSE --- SNSE Commands---SNSE-------SNSE---	
6	At the SNSE, enter the PM level at the MAP and post the LIM that is to be tested: **>MAPCI;MTC;PM** **>POST LIM <lim_no>** where lim_no = is the LIM Number	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: INSV . . UNIT 1: INSV . .
7	At the SNSE, translate the LMS to MS link assignments: **>TRNSL 0** Ensure that the status of all equipped links are open.	Open links display as Open or Open_pla_op.
8	At the SNSE, perform an inservice test on UNIT 0 of the LIM: **>TST UNIT 0**	"LIM x UNIT 0 Test Initiated." "LIM x UNIT 0 Test Passed."
9	At the SNSE, perform an inservice test on UNIT 1 of the LIM: **>TST UNIT 1**	"LIM x UNIT 1 Test Initiated." "LIM x UNIT 1 Test Passed."
10	At the SNSE, busy FBUS 0: **>FBUS** **>BSY FBUS 0** **>YES** **>QUIT**	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: INSV . X UNIT 1: INSV . . where X = # of FBUS taps on FBUS 0

—continued—

Procedure 5 – Pre-Cutover LPP DS30 Link Move (Continued)

Step	Action	Observation
	---SNSE-------SNSE --- SNSE Commands---SNSE-------SNSE---	
11	At the SNSE, busy UNIT 0 of the LIM: **>BSY UNIT 0**	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: MANB 2 X UNIT 1: ISTB 2 . where X = # of FBUS taps on FBUS 0
12	At the SNSE, determine, from the output to the TRNSL 1 command, which links are LIM cross links (usually Links 2 and 6). Busy these links. **>BSY LINK 1 <link_no_A>** **>BSY LINK 1 <link_no_B>** where link_no_A and link_no_B = the link numbers of the LIM cross-links.	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: MANB 2 X UNIT 1: ISTB 2 . where X = # of FBUS taps on FBUS 0
13	At the SNSE, enter the MS level and busy the MS ports connected to LIM <lim_no> UNIT 0: **>MS;SHELF 0** **>CARD <card_no_A>** **>BSY 0 PORT <port_no_i>** **>BSY 1 PORT <port_no_i>** **>CARD <card_no_B>** **>BSY 0 PORT <port_no_ii>** **>BSY 1 PORT <port_no_ii>** where card_no_A and card_no_B = the numbers of the MS cards that have links to the LMS and port_no_i and port_no_ii are the numbers of the ports connected to LIM <lim_no> UNIT 0. These cards and ports can be determined from LIMPTINV. These ports will be P busy prior to executing the BSY command.	

—continued—

Procedure 5 – Pre-Cutover LPP DS30 Link Move (Continued)

Step	Action	Observation
	---SNSE-------SNSE --- SNSE Commands ---SNSE-------SNSE---	
14	At the SNSE, translate the LMS 1 to MS link assignments: **>PM;POST LIM <lim_no>** **>TRNSL 1** Ensure that the status of all equipped links to MS 0 and MS 1 are open.	Open links display as Open or Open_pla_op.
15	At the LPP, get the on-site Installer to remove LIM Cross Links from the LIM UNIT 0 (shelf 39, rear right hand side) bulkhead as follows: Remove cable LIM 1 from connector A2. Remove cable LIM 2 from connector B2.	
16	At the LPP switchbox LIM <lim_no> UNIT 0, get the on-site Installer to move the MS 0 (upper half) switch from the SNSE MS to the SNode MS position.	LED for SNSE MS with extinguish and LED for SNode MS will illuminate.
17	At the LPP switchbox LIM <lim_no> UNIT 0, get the on-site Installer move the MS 1 (bottom half) switch from the SNSE MS to the SNode MS position.	LED for SNSE MS with extinguish and LED for SNode MS will illuminate.

—continued—

Procedure 5 – Pre-Cutover LPP DS30 Link Move (Continued)

Step	Action	Observation
	-------SUPERNODE --- SuperNode Commands ---SUPERNODE-------	
18	At the SuperNode, enter the MS level and RTS the MS ports connected to LIM <lim_no> UNIT 0: **>MS;SHELF 0** **>CARD <card_no_A>** **>RTS 0 PORT <port_no_i>** **>RTS 1 PORT <port_no_i>** **>CARD <card_no_B>** **>RTS 0 PORT <port_no_ii>** **>RTS 1 PORT <port_no_ii>** where card_no_A and card_no_B = the numbers of the MS cards that have links to the LMS and port_no_i and port_no_ii are the numbers of the ports connected to LIM <lim_no> UNIT 0. These cards and ports can be determined from LIMPTINV	
19	At the SuperNode, post the LIM at the PM level: **>PM** **>POST LIM <lim_no>** where lim_no = is the LIM Number	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: OFFL 6 X UNIT 1: OFFL 6 X
20	At the SuperNode, busy the LIM: **>BSY PM FORCE**	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: MANB 2 X UNIT 1: MANB 2 X
21	At the SuperNode, busy the FBUS: **>FBUS** **>BSY FBUS** **>YES** **>QUIT**	

—continued—

Procedure 5 – Pre-Cutover LPP DS30 Link Move (Continued)

Step	Action	Observation
	-------SUPERNODE --- SuperNode Commands ---SUPERNODE-------	
22	At the SuperNode, load LIM UNIT 0: **>LOADPM UNIT 0**	"LIM x UNIT 0 Load Initiated." "LIM x UNIT 0 Load Passed."
23	At the SuperNode, test LIM UNIT 0: **>TST UNIT 0**	"LIM x UNIT 0 Test Initiated." "LIM x UNIT 0 Test Passed."
24	At the SuperNode, return LIM UNIT 0 to service: **>RTS UNIT 0**	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: ISTB 2 X UNIT 1: MANB 2 X
25	At the SuperNode, perform an inservice test on UNIT 0 of the LIM: **>TST UNIT 0**	"LIM x UNIT 0 Test Initiated." "LIM x UNIT 0 Test Passed."
26	At the SuperNode, busy LIM UNIT 0: **>BSY UNIT 0** **>YES**	"LIM x UNIT 0 Busy Initiated." "LIM x UNIT 0 Busy Passed."
27	Repeat steps 1 to 27 for all remaining LIMs to be cutover.	

– End –

13.1.6 Procedure 5A Pre-Cutover DS512 SSLPP Link Move

All commands in the next procedure will be typed by the software applicator. The software applicator will request the on-site Installer to perform cabling and switchbox related tasks at various points in the procedure. The on-site Installer should reference the appropriate IM procedure for these tasks.

This procedure will move the DS-512 links of FBUS 0 of every SSLPP in the office from the SNSE to the SuperNode. All MS and SSLPP DS512 links must be integrated into the MS ST fiber switch boxes for both the SNSE MS and the SuperNode MS (as per IM 78-5072) prior to performing this procedure.

The SSLPP must be datafilled and offlined on the SuperNode prior to performing this procedure.

Commands will be performed at both the SNSE *and* the SuperNode during this procedure. Pay careful attention as to what switch a particular command should be executed on.

IMPORTANT: At this time verify with the on-site Installer and make sure all PM's have unit 0 active. This activity needs to be completed prior to starting the Pre-Cutover Link Move procedure.

Procedure 5A – Pre-Cutover SSLPP DS512 Link Move

Step	Action	Observation
1	Have the on-site Installer inspect the switch cards being used to ensure that the switches are in the SNSE MS position.	LOCAL LED on all switchcards must be on. If these LEDs are not as indicated, resolve the problem before continuing.
	---SNSE-------SNSE --- SNSE Commands---SNSE-------SNSE---	
2	Enter the MS level : **>MAPCI;MTC;MS** If MS 0 has master clock, switch the master to MS 1, otherwise proceed to Step 3: **>SWMAST** **Wait 10 minutes after SWACT to ensure stability.**	
3	Post the FBus card : **>SHELF;CARD <card_#>** where <card_#> is the logical slot location of the NT9X17AD/NT9X62BA pair. Note: Check table MSCDINV and/or LIUINV to determine the FBUS card #.	Example: Card 12 Protocol Port 0_____3 MS 0 . DS512 4 . - - - MS 1 . DS512 4 . - - -

—continued—

Procedure 5A – Pre-Cutover SSLPP DS512 Link Move (Continued)

Step	Action	Observation
	---SNSE-------SNSE --- SNSE Commands---SNSE-------SNSE---	
4	Determine which port (0-3) of the NT9X62BA card will be connected to the SSLPP for MS 0. Record this value as <port_#> for future reference **> TRNSL 0** **Port_# _____** The last line indicates which port is being used. Port 0 in this example.	Trnsl 0 Site Flr RPos Bay_id Shf Description Slot EqPEC HOST 00 A00 DPCC 0 39 MS 0:0:17 23 9X17AD FRNT HOST 00 A00 DPCC 0 39 MS 0:0:17 23 9X62BA BACK Port 0=LIS (OK :Opened)
5	Display the FBus taps : **>PORT <port_#>** where <port_#> was determined above.	Example: Card 12 Port 00 FBus Tap: 0 4 8 MS 0 . . . .--- MS 1 . . . .---
6	Ensure that both FBus 0 and FBus 1 are 'in-service', and all used FBus taps are 'in-service' as well. If this is not the case, clear alarm condition before proceeding.	Example: Card 12 Port 00 FBus Tap: 0 4 8 MS 0 . . . .--- MS 1 . . . .--- FBus 0 and FBus 1 are 'in-service' FBus taps 0-7 are 'in-service'
7	Manually busy FBus 0 : **>BSY 0 FBUS FORCE** **>YES**	Example: Request to MAN BUSY MS: 0 shelf: 0 card:12 FBus submitted. Request to MAN BUSY MS: 0 shelf: 0 card:12 FBus passed.
8	Manually busy the MS port that terminates the DS512 fiber link: **>QUIT; CARD <card_#>** **>BSY 0 PORT <port_#>** where <port_#> was determined above.	Example: Request to MAN BSY MS: 0 shelf: 0 card:12 port: 0 submitted. Request to MAN BSY MS: 0 shelf: 0 card:12 port: 0 passed.

—continued—

Procedure 5A – Pre-Cutover SSLPP DS512 Link Move (Continued)

Step	Action	Observation
9	At the back of the SSLPP have the on-site Installer disconnect the FBus mate connections. Cable assembly NT9X9820 connects the LIS Fiber Interface Paddle boards (NT9X98AA) in slots 7R and 32R together on the same shelf. The cable connects onto port J1 FBus 0 and FBus 1 needs to be isolated because they will be communicating with two different MSs. This cable is located on the second from bottom connector.	
10	At the front of the MS ST Fiber Switchbox have the on-site Installer locate the switchcard that controls the FBus 0 connections to the SNSE and SuperNode. **Move switch S1 down to position B**. This will connect FBus 0 on the SSLPP to the SuperNode MS 0.	
	-------SUPERNODE --- SuperNode Commands ---SUPERNODE-------	
11	Enter the MS level : **>MAPCI;MTC;MS** If MS 0 has master clock, switch master to MS 1 **>SWMAST**	
12	Access the Fbus level: **>SHELF** **>CARD <card_#>** <card_#> = logical slot that the NT9X17AD / NT9X62BA is in (physical slot minus 6). Note: Check table MSCDINV to determine the FBUS card #.	Example: Card 12 Protocol Port 0_____3 MS 0 . DS512 4 . - - - MS 1 . DS512 4 . - - - e.g., an NT9X17AD / NT9X62BA combination located in physical slot 23 would be posted as **>CARD 17.**
13	If card for MS 0 is OFFL, BSY and RTS: **>BSY 0** **>RTS 0**	

—continued—

Procedure 5A – Pre-Cutover SSLPP DS512 Link Move (Continued)

Step	Action	Observation
	-------SUPERNODE --- SuperNode Commands ---SUPERNODE-------	
14	Determine which port (0-3) of the NT9X62BA card will be connected to the SSLPP for MS 0 and MS 1. Record this value as <port_#> for future reference > **TRNSL 0** **Port_# _____** The last line indicates which port is being used. Port 0 in this example.	Trnsl 0 Site Flr RPos Bay_id Shf Description Slot EqPEC HOST 00 A00 DPCC 0 39 MS 0:0:17 23 9X17AD FRNT HOST 00 A00 DPCC 0 39 MS 0:0:17 23 9X62BA BACK Port 0=LIS (OK :Opened)
15	Display the FBus taps : **>PORT <port_#>** where <port_#> is 0-3	Example: Card 12 Port 00 FBus Tap: 0 4 8 MS 0 . . . .--- MS 1 . . . .---
16	Manually busy FBus 0 : **>BSY 0 FBUS** **>YES**	Example: Request to MAN BUSY MS: 0 shelf: 0 card:12 FBus submitted. Request to MAN BUSY MS: 0 shelf: 0 card:12 FBus passed.
17	Perform an OOS service test on FBus 0: **>TST 0 FBUS**	
18	Repeat steps 1 to 17 for all SSLPPs to be cut over.	

– End –

13.1.7 Procedure 6 – Switch IOCs to SuperNode

This procedure prepares the Input Output devices on the SNSE for the cutover. These activities will move IOC 1 and higher to the SuperNode.
For offices using 2 CIOCs (one is IOC 0 on the SNSE, the other is IOC 0 on the SN), IOC <x> (the former IOM 0) is not moved to the SuperNode at this time. This IOC will remain connected to the SNSE until the Post-Cutover procedure.

Note: IOC <x> is the IOC number used for migrating the former IOM 0 to a higher position per IM 72-6185.

1 **Site/SNSE** On the SNSE remove parallel tape or disk devices.

```
> MAPCI;MTC;IOD;DIRP
> QUERY AMA ALL
> QUIT MAPCI
> TABLE DIRPPOOL
> LIS ALL

Note: pool # for AMAPARL

Position on the pool # for AMAPARL

> CHA VOLUME# $
> Y                          {for confirmation}

Repeat for each parallel tape or disk device.

> QUIT ALL
```

---

2 **Site and Inst/SNSE** On the SNSE close all files going to disk (DDU) that were not started by DIRP. This includes LOGUTIL, EDIT, SEND, COPY, etc. Be sure to get a hard copy for use later.

```
> MAPCI NODISP;MTC;IOD;LISTDEV DDU

> IOC <a>              {IOC number from "LISTDEV"}

> CARD <b>             {CARD number from "LISTDEV"}
    or

> PORT <b>             {FOR IOMs}

> STATUS

> ALLOC   {only if STATUS shows "ready, online"}
```

Note: All non-DIRP files must have a ZERO in the FILES_OPEN field.

Repeat for each equipped DDU.

```
> QUIT MAPCI
```

—continued—

Procedure 6
Switch IOCs to SuperNode (continued)

3 **Site/SNSE** On the SNSE, for each billing subsystem in DIRP, assign in table DIRPPOOL standby volumes to IOC 0 (if not already assigned) to allow a transfer. For offices using 2 CIOCs, assign the standby volumes (if not already assigned) to IOC <x> (the former IOM 0).

Note: IOC <x> is the IOC number used for migrating the former IOM 0 to a higher position per IM 72-6185.

---

4 **Site/SNSE** On the SNSE, for each active volume on IOC 1 and higher, rotate to IOC 0. For offices using 2 CIOCs, rotate active volumes on IOC 1 and higher to IOC <x> (the former IOM 0).

To accomplish this, perform either **substep 4a** or **4b** below depending on the DIRP subsystem configuration.

Note: In the following substeps <subsystem> refers to the DIRP subsystem name identified in table DIRPSSYS (such as AMA SMDR OCC CDR).

a. If DIRP subsystem is on disk and IOC 1 and higher, rotate the disk files and if required by Telco, copy the billing files.

```
> MAPCI;MTC;IOD;DIRP
> ROTATE <subsystem>

> YES                                    {for confirmation}
```

Repeat steps for each subsystem on a disk drive on IOC 1 and higher.

Copy any unprocessed AMA or other billing files on disk to a magnetic tape.

Put up a tape on MTD 0. Go to DSKUT and do LISTVOL on the volume with the files you want to copy. Either enter

```
> DIRPAUTO <subsystem>   {steps you through the process}
```

or MOUNT the tape and enter:

```
> DIRPCOPY <subsystem> <filename> T0
```

where <filename> refers to the unprocessed DIRP files. These start with the letter "U" (for example, U890327133614AMA).

Repeat DIRPAUTO or DIRPCOPY for each billing subsystem on IOC 1 and higher.

If applicable, verify that table DIRPHOLD is empty.

—continued—

Procedure 6
Switch IOCs to SuperNode (continued)

b. If DIRP subsystem is on MTD tape or BMC and on IOC 1 and higher, close the active file and if BMC, poll it.

```
> MAPCI;MTC;IOD;DIRP
> ROTATE <subsystem>

> YES                                    {for confirmation}
```

If BMC, call downstream processing to poll the billing information.

---

5 **Site/SNSE** On the SNSE, if AMA collection is on DPP and IOC 1 or higher, retrieve the DPP settings and close the active file. For offices using 2 CIOCs, if DPP is on IOC 1 or higher excluding IOC <x> (the former IOM 0), retrieve the DPP settings and close the active file

Note 1: Be sure you get a hard copy of the polling information.

Note 2: The DPP loadname is found in the *Peripheral Module Software Release Document*.

```
> MAPCI;MTC;IOD;DPP AMA
> COLLPSW          {display the COLLECTOR passwords}
> AMATPSW          {display AMAT passwords}
> AMAHRS           {display hour boundaries for receiving data blocks}
> VALPARM INVALID  {display the invalid block threshold}
> LSTDIR ALL       {display the version, record this for later}
> ERRMAP ACT       {display alarm assignments}
> VS ACT
```

Verify the loadname is correct for the to_PCL load and firmware is at least DOS 21.08.

```
> VS STDBY
```

Verify the loadname is correct for the to_PCL load and firmware is at least DOS 21.08.

Warning: Do not continue if the DPP load name or firmware version is incorrect.

Close the active DPP file if on IOC 1 and higher.

```
> MAPCI;MTC;IOD;DIRP
> ROTATE <subsystem>
> YES                                    {for confirmation}
> QUI;DPP AMA
> IDXMAINT CREATE FILE AMA
> YES                                    {for confirmation}
```

—continued—

Procedure 6
Switch IOCs to SuperNode (continued)

6 **Site/SNSE** On the SNSE, perform the following to move IOC 1 and higher from the SNSE to the SuperNode.

IMPORTANT: For offices using 2 CIOCs, when performing this step exclude IOC <x> (the former IOM 0). *Note: <x> is the IOC number used to for migrating IOM 0 to a higher position per IM 72-6185.*

a. DMNT all DIRP subsystems that are currently assigned to IOC 1 and higher.

```
> MAPCI;MTC;IOD;DIRP
```

> QUERY <**subsystem**> ALL *{Retain for steps 11 and 12 - subsystem names are listed in table DIRPSSYS}*

> DMNT <**subsystem**>

Repeat DMNT for all subsystems on IOC 1 and higher.

b. Stop all log devices on IOC 1 and higher.

```
> LOGUTIL;LISTDEVS
```

> STOPDEV <**device**>

Repeat for each log device on IOC 1 and higher.

```
> QUIT
```

c. BSY and OFFL all devices on IOC 1 and higher, then BSY and OFFL the IOC.

For offices equipped with IOC's:

```
> MAPCI;MTC;IOD;IOC 1
```

> CARD <**n**>
where <n> is the IOC card to be offlined.

> BSY <**port**>;OFFL <**port**>
where <port> is each assigned port on the card

Note: If DDU device, BSY and STOP the device before OFFL.

Repeat for all ports assigned on all IOC cards.

```
> QUIT;BSY IOC;OFFL IOC
```

Repeat substep c for each IOC higher than IOC 1.

```
> QUIT MAPCI
```

—continued—

Procedure 6
Switch IOCs to SuperNode (continued)

For offices equipped with IOM's:

```
> MAPCI;MTC;IOD;IOC 1
> PORT <n>
```

where <n> is the IOM port to be offlined.

```
> BSY;OFFL
```

Repeat for all ports assigned on IOM 1.

```
> QUIT;BSY IOC;OFFL IOC
```

Repeat substep c for each IOC higher than IOC 1.

```
> QUIT MAPCI
```

d. **Inst/SNSE** Switch IOC 1 and higher by throwing the switch (backplane of IOC) from SNSE to MS. Alternatively, remove the connectors "C00" and "C01"and replace them with the SuperNode cables.

Note: Cable C00 must connect to MS1 bulk-head and cable C01 must connect to MS0 bulk-head.

---

7 **App/SN** On the SuperNode return IOC 1 to service

```
> MAPCI;MTC;IOD;IOC 1;BSY IOC;RTS IOC
```

Note: For offices equipped with IOMs, if RTS fails perform the following:

```
> QIOM
> DOWNLD
> TST IOC
> RTS IOC
```

---

8 **App/SN** Following the return to service, LOGIN to the SuperNode using a dialup on IOC 1.

```
<break>
? LOGIN
Enter user name and password
```

{or enter each separately}

Note: If necessary, edit table TERMDEV to allow the SITE to log in.

—continued—

Procedure 6
Switch IOCs to SuperNode (continued)

9 **App/SN** On the SuperNode, verify the cables to IOC 1 and higher were properly connected.

```
> MAPCI;MTC;MS;SHELF 0
```

Identify the MS with the SLAVE clock.

> BSY <**slave_MS**> <**CARD#**>
where <CARD#> is the card number with IOC 1 assigned.

Verify that IOC 1 remains in-service. If not, reverse the cables.

> RTS <**slave_MS**> <**CARD#**>

Note: To determine what MS card the IOC is connect to, check table IOC and fields “MSCARD” and “MSPORT”.

---

10 **App/SN** On the SuperNode, recover each MS card as follows.

> BSY 0 <**CARD#**>
> RTS 0 <**CARD#**>

Repeat BSY/RTS 0 for each card assigned on MS 0.

> BSY 1 <**CARD#**>
> RTS 1 <**CARD#**>

Repeat BSY/RTS 1 for each card assigned on MS 1.

```
> QUIT MAPCI
```

---

11 **App/SN** On the SuperNode verify that on IOC 1 and higher, all devices are in-service and logs are stopped.

---

12 **Site/SN** On the SuperNode, for DIRP subsystems on disk re-assign DIRP subsystems on IOC 1 and higher.

```
> MAPCI;MTC;IOD;DIRP
```

> MNT <**subsystem**> <**disk**>

Repeat MNT for all DIRP subsystems on disk.

—continued—

Procedure 6
Switch IOCs to SuperNode (continued)

13 **Site/SN** On the SuperNode, for DIRP subsystems on tape, DPP or BMC, DO NOT re-assign DIRP subsystems on IOC 1 and higher unless table DIRPPOOL is datafilled with a DEVTYPE of DPP for the subsystem. If this is the case, perform the following.

```
> MOUNT <x> FORMAT <volume_name>

> DEMOUNT T<x>

> MAPCI;MTC;IOD;DIRP

> MNT <subsystem> T<x>
```

Repeat this step for all DIRP subsystems that meet requirements.

13.1.8 Procedure 7 – Prepare Adjunct Application Systems

1 **Site** Prepare all Non-Billing Applications for cutover using the procedures found in Appendix E (SDM Procedure) as needed.

ATTENTION: This is a two part procedure – the second part will be performed after cutover to the SuperNode.

---

2 **Site** Prepare all Billing Applications for cutover using Appendix E (SDM Procedure) or Appendix F (FP Cutover Procedure) as needed.

ATTENTION: This is a two part procedure – the second part will be performed after cutover to the SuperNode.

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14 Conversion to SuperNode - SWACT and POSTSWACT

In the *Convert to SuperNode and Post-conversion* phase, the CPUs are switched to make the SuperNode the controlling CPU. When the POSTSWACT step is started, it allocates billing devices (AMA) and performs miscellaneous hardware verifications. At that time, the Operating Company begins the pre-arranged call verification testing while the Applicator and on-site Installer perform additional recovery and verification steps.

14.1 Procedure Warnings

1 Verify all essential services or high profile customers (police and emergency bureaus, hospitals, and radio stations) are not in emergency call processing mode by contacting the appropriate customer.

2 In *Procedure 1: Convert to SuperNode* (below) ensure the activity switch is not performed during periodic testing. Work quickly to minimize downtime once **step 2** is performed—Call processing ceases until that step is complete.

3 No activity is to be performed on the SuperNode CM, MS, or CLOCK until it is cleared by the Software Delivery Applicator.
Failure to comply may result in a system restart.

4 Confirm FX voice line numbers with Site and establish voice and data contact on same if this is not already the case.

5 All personnel must read all of *Procedure 1* before proceeding.

6 Should the SuperNode develop hardware problems after conversion, the following options should be considered:

A If the fault can be cleared by system testing, do so.

B If the fault cannot be cleared by system testing, it is imperative that **absolutely no hardware in the NT9X01 frame is to be replaced until an image of the SuperNode is taken.**

—continued—

Procedure Warnings (continued)

C If the customer representative concludes that there is not enough time in the maintenance window to take an image prior to replacing the hardware, there are two options remaining.

At the discretion of the customer representative:

1 The fault may remain until their next maintenance window,

or

2 The office shall Revert to the SNSE processor.

The Customer Representative is encouraged to discuss all options with Nortel Networks Emergency Recovery and Software Delivery to resolve the issue. This warning is critical because no bootable image exists on the SuperNode at this point. The image taken by the Nortel Networks Applicator has all networks and peripherals set to an offline condition. An extended outage will occur should the SuperNode have to boot from that image.

14.2 Procedure

14.2.1 Procedure 1 – Check Logs on SNSE and SN

1 **App/SNSE** Prior to CUTOVER, logs must be checked on the SNSE to ensure switch stability. The following log types should be checked: TRAP SWERR CM CMSM MS for CM/SLM or TRAP SWERR XAC MS NET ENET for XA-Core. If necessary, check other log types as well.

```
> LOGUTIL
> OPEN <log_name>;BACK ALL   {repeat for each log type}
> QUIT ALL
```

If any log indicates a problem, investigate and resolve before continuing.

---

2 **App/SN** Prior to CUTOVER, logs must be checked on the SuperNode to ensure switch stability. The following log types should be checked: TRAP SWERR CM CMSM MS for CM/SLM or TRAP SWERR XAC MS NET ENET for XA-Core. If necessary, check other log types as well.

```
> LOGUTIL
> OPEN <log_name>;BACK ALL   {repeat for each log type}
> QUIT ALL
```

If any log indicates a problem, investigate and resolve before continuing.

14.2.2 Procedure 2 – Convert to SuperNode

1 ***This is where critical activity starts.***
Make these final preparations before switching activity to the SuperNode.

a. **App/SNSE** Post the MS level of the MAP to observe and verify that all links go "S" (SYSB) once the master switches are thrown below (this may take some time depending on the office size).

b. **Inst/MSBX** Verify the master switchboxes are powered up, the "SNSE" LED is "ON", and the "DISC" LED is "OFF".

c. **Inst/RSBX** Verify the "LOC" LED is "OFF" at all the remote switchboxes and confirm information to the APP.

Note: If any "LOC" LEDs are "ON", the remote switchbox may be defective and must be replaced.

d. **Inst/RSBX** Once all the "LOC" LEDs are confirmed "OFF" at all **remote** switchboxes, the on-site Installer throws the switch from the "SNSE" position to the "SN" position.

ATTENTION: For offices with Adjunct Billing Systems (SDM or FP), DO NOT have the Installer throw these switches until after switching activity to the SuperNode (see Appendix E or F).

---

2 Switch activity from the SNSE to the SuperNode.

a. **App/SN** Perform a Reload Restart on the SuperNode.

hint: For this step use this verbal countdown:
- *Type RESTART RELOAD ACTIVE*
- *on **3** — hit <cr> and type YES*
- *on **2** — hit <cr>*
- *on **1** — Installer throws MASTER switches*

```
> RESTART RELOAD ACTIVE

> YES     {Do not press "enter" until the Installer is ready}
```

WARNING: As soon as the restart is confirmed (by entering "YES"), IMMEDIATELY GO TO **substep b**.

ATTENTION: Substep b must be done immediately after the Restart Reload is initiated and before the SuperNode RTIF flashes A1.

—continued—

Procedure 2
Convert to SuperNode (continued)

b. **Inst and App/MSBX** The Applicator instructs the on-site Installer to throw the master switches from the "SNSE" position to the "SN" position**.**

c. **Inst and App/MSBX** The on-site Installer confirms to the Applicator that the "SNSE" LED is "OFF" and the "SN" LED is "ON" for all the master switchboxes.

d. **App/SNSE** Perform the following steps on the SNSE while the Restart Reload is taking place on the SuperNode:

On the SNSE, repeat the following for each LPP in the office.

```
> MAPCI;MTC;PM;POST LIM <lim_no>
> FBUS;BSY FBUS 1 FORCE
> Y
> QUIT

> BSY UNIT 1 FORCE
> Y
> OFFL
> QUIT MAPCI
```

OR

On the SNSE, repeat the following for each SSLPP in the office.

```
> MAPCI;MTC;MS;SHELF 0;CARD <card_no>
> PORT <port_no>
> BSY 1 FBUS FORCE
> Y
> OFFL 1 FORCE
> QUIT MAPCI
```

e. **Inst/SN** Verify the SuperNode is flashing "A1" (within 5 minutes).

ATTENTION: Do not attempt manual system recovery at this point. Wait until the SRC (System Resource Controller) has had a chance to work (5 minutes) before beginning any system maintenance.

NOTE*: PM's will try to recover and LCM's should recover dial tone. Wait 5 minutes then escalate if system recovery is not responding. Manual recovery steps may need to be implemented. After PM's have recovered, Site will need to verify 911 calls and the TEST CALLS plan.*

14.2.3 Procedure 3 – LOGIN and begin Post-Cutover Activities

1 **Site and App/SN** Login on the SuperNode.

ATTENTION: Work quickly to complete the following steps.

```
<break>

? LOGIN

Enter username and password        {system response}
> <username> <password>
```

or
```
> <username>
> <password>
```

---

2 **App/SN** Verify the DATE and time are correct

```
> DATE
```

WARNING: If the date and time are not correct, change it immediately before DIRP subsystems are allocated.

To change date:

```
> SETDATE <dd mm yy>
```

To change time:

```
> SETTIME <hour> <minute>
```

---

3 **App/SN** Start POSTSWACT

```
> BCSUPDATE;POSTSWACT
```

Note 1: BCSUPDATE will execute all POSTSWACT steps required after the cutover, and set them to "complete" when they pass. If any step fails to complete, POSTSWACT will stop and display additional information. Use the information to investigate and correct the problem. After making corrections, continue POSTSWACT by typing:

```
> BCSUPDATE;POSTSWACT
```

Note 2: If no problems are encountered, POSTSWACT stops after step BEGIN_TESTING and waits until the SITE accepts the new software load. At that point, do not start POSTSWACT again until the processors are in sync.

—continued—

Procedure 3
Login and begin Post Cutover Activities (continued)

4 ***IMPORTANT*: After starting POSTSWACT, ensure the following actions take place:**

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

---

5 **App/SN** For offices using adjunct billing systems (FP or SDM), perform the following actions to ensure the back-up disk volumes are OK and collecting AMA records.

For FP:

```
> MAPCI;MTC;APPL;OAMAP;DRM
```

```
> INFO GCDR VOL ALL
```

Ensure volumes are in OK State (not mounting).

```
> QUIT MAPCI
```

For SDM:

```
> MAPCI;MTC;APPL;SDMBIL;STATUS
```

```
> CONF VIEW GCDR                    {for GSM loads}
OR
> CONF VIEW AMA                     {for NA100 loads}
```

Ensure Stream is activated for SDM billing.

```
> QUIT MAPCI
```

---

6 ***ATTENTION:*** At this time it may be necessary to initiate manual recovery of some PMs. Ensure all ASUs (LIU7, EIU, XLIU, FRIU, etc.) are returned to an in-service condition.

---

7 **Site and App/SN** Confirm that all affected DIRP subsystems are properly activated.

```
> MAPCI;MTC;IOD;DIRP
```

```
> QUERY AMA ALL
```

If applicable, allocate DIRP subsystems for standby AMA.

```
> QUIT MAPCI
```

—continued—

Procedure 3
LOGIN and begin Post Cutover Activities (continued)

8 **App/SN** Perform the following on the SuperNode:

FOR LPP:

```
> PM;POST LIM <lim_no>
> BSY UNIT 1 FORCE                    {from a SYSB state}
> Y
> FBUS;BSY FBUS 1 FORCE               {from a SYSB state}
> y
> QUIT MAPCI
```

FOR SSLPP:

```
> MS;SHELF 0;CARD <card_no>
> PORT <port_no>
> BSY 1 FBUS FORCE                    {from a SYSB state}
> Y
> QUIT MAPCI
```

---

9 **Site** Verify 911 test calls and that all Emergency Services are functioning, then perform the TEST CALLS that were identified prior to Cutover. Refer to the *Post conversion test scripts in Appendix C*.

Note: Verify AMAB logs in conjunction with each test call made.

ATTENTION: If an abort becomes necessary due to critical test failures, switch activity back to the SNSE using the *Revert to SNSE procedure.*

---

10 ***IMPORTANT:*** If no problems are encountered, POSTSWACT stops after step BEGIN_TESTING and waits until the Operating Company accepts the new software load. DO NOT continue Post-Cutover activities until the Operating Company accepts the new software load on the SuperNode.

14.2.4 Procedure 4 – SITE accepts load

POSTSWACT stops after step BEGIN_TESTING to allow the Operating Company to complete testing of the new software load. Post-Cutover activities can continue only after the Operating Company accepts the new software load on the SuperNode.

CAUTION

DO NOT CONTINUE until Applicator *and* SITE agree that all test calls have passed satisfactorily and the Operating Company has accepted the new software load.

1 **Site** Complete all remaining Adjunct Billing Application Systems procedures found in Appendix E (SDM Procedure) or Appendix F (FP Procedure) as needed.

2 **Site** Complete all remaining Adjunct Non-Billing Application Systems procedures found in Appendix E (SDM Procedure) as needed.

For SNSE-CM/SLM to SN-XA Conversions:

3 **App** Inform the on-site Lead Installer to complete the SWACT procedure per IM 78-0931 to de-integrate the XA-Core CMIC link from the COD and bring the CMIC link in-service.

14.2.5 Procedure 5 – Post-Cutover DS30 LPP Link Move

ATTENTION: **If office is equipped with a Single Shelf LPP (SSLPP) do not perform this procedure. If office is equipped with a SSLPP perform procedure 5A "Post-Cutover SSLPP DS512 Link Move."**

This procedure provides instructions to cutover remaining LIM (lim_no) UNIT 1 to the now in-service SuperNode:
where lim_no = number of the LIM UNIT 1 being migrated to the SuperNode.

All commands in this section will be typed by the Applicator. The Applicator will ask the field technician to perform cabling and switchbox related tasks at various points in the procedure.

Commands will be performed at both the SNSE and the SuperNode during this procedure. Pay careful attention as to what switch a particular command should be executed on.

Procedure 5 – Post-Cutover DS30 LPP Link Move (LIM <lim_no> UNIT 1)

Step	Action	Observation
1	Get the on-site Installer to ensure that the switchboxes are in local mode.	The local LEDs will be illuminated at the switchboxes.
2	Get the on-site Installer to ensure that the switchbox toggles on the LIM <lim_no> UNIT 1 Switchbox are set to SNSE MS.	The SNSE MS LEDs will be illuminated on the LIM <lim_no> UNIT 1 switchbox.
	Ensure that the switchbox toggles on the LMS 0 Switchbox are set to SNode MS.	The SNode MS LEDs will be illuminated on the LMS 0 switchbox.
3	Note some commands will be typed at the SuperNode and some commands will be typed at the SNSE during this procedure.	

—continued—

Procedure 5 – Post-Cutover DS30 LPP Link Move (continued)

Step	Action	Observation
	-------SUPERNODE --- SuperNode Commands ---SUPERNODE-------	
4	At the SuperNode, enter the PM level and post the LIM to be tested: **>MAPCI;MTC;PM** **>POST LIM <lim_no>** where lim_no = number of the LIM having its links tested **> trnsl 1** Verify LIM <lim_no> UNIT 0 is ISTB and UNIT 1 is either MANB (RU) or SYSB.	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: ISTB 4 y UNIT 1: xxxx 4 y where xxxx = MANB (RU) or SYSB
5	At the SuperNode, enter the MS level and busy the MS ports connected to LIM <lim_no> UNIT 1: **>MS;SHELF 0** **>CARD <card_no_A>** **>BSY 0 PORT <port_no_i>** **>BSY 1 PORT <port_no_i>** **>CARD <card_no_B>** **>BSY 0 PORT <port_no_ii>** **>BSY 1 PORT <port_no_ii>** where card_no_A and card_no_B = the numbers of the MS cards that have links to the LMS and port_no_i and port_no_ii are the numbers of the ports connected to LMS 0. These cards and ports can be determined from LIMPTINV. These ports will be P busy prior to executing the BSY command.	At the MAP alarm banner, "Man B" will appear under MS and "MC Tbl" will appear under CM.

—continued—

Procedure 5 – Post-Cutover DS30 LPP Link Move (continued)

Step	Action	Observation
	---SNSE-------SNSE --- SNSE Commands ---SNSE-------SNSE---	
6	At the SNSE, enter the MS level and busy the MS ports connected to LIM <lim_no> UNIT 1: **>MS;SHELF 0** **>CARD <card_no_A>** **>BSY 0 PORT <port_no_i>** **>BSY 1 PORT <port_no_i>** **>CARD <card_no_B>** **>BSY 0 PORT <port_no_ii>** **>BSY 1 PORT <port_no_ii>** where card_no_A and card_no_B = the numbers of the MS cards that have links to the LMS and port_no_i and port_no_ii are the numbers of the ports connected to LMS 0. These cards and ports can be determined from LIMPTINV. These ports will be P busy prior to executing the BSY command.	
7	At the LPP switchbox LIM <lim_no> UNIT 1, get the on-site Installer to move the MS 0 (upper half) switch from the SNSE MS to the SNode MS position.	LED for SNSE MS with extinguish and LED for SNode MS will illuminate.
8	At the LPP, get the on-site Installer to replace LIM Cross Links at the LIM UNIT 0 (shelf 39, rear right hand side) bulkhead as follows: Connect cable LIM 1 to connector A2. Connect cable LIM 2 to connector B2.	
9	At the LPP switchbox LIM <lim_no> UNIT 1, get the on-site Installer to move the MS 1 (bottom half) switch from the SNSE MS to the SNode MS position.	LED for SNSE MS with extinguish and LED for SNode MS will illuminate.

—continued—

Procedure 5 – Post-Cutover DS30 LPP Link Move (continued)

Step	Action	Observation
	-------SUPERNODE --- SuperNode Commands ---SUPERNODE-------	
10	At the SuperNode, enter the MS level and RTS the MS ports connected to LIM <lim_no> UNIT 1: **>MS;SHELF 0** **>CARD <card_no_A>** **>RTS 0 PORT <port_no_i>** **>RTS 1 PORT <port_no_i>** **>CARD <card_no_B>** **>RTS 0 PORT <port_no_ii>** **>RTS 1 PORT <port_no_ii>** where card_no_A and card_no_B = the numbers of the MS cards that have links to the LMS and port_no_i and port_no_ii are the numbers of the ports connected to LIM <lim_no> UNIT 1. These cards and ports can be determined from LIMPTINV	
11	At the SuperNode, post the LIM at the PM level: **>PM** **>POST LIM <lim_no>** where lim_no = is the LIM Number	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: ISTB 2 . UNIT 1: MANB 2 X
12	At the SuperNode, busy the LIM UNIT 1: **>BSY UNIT 1**	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: ISTB 2 . UNIT 1: MANB 2 X
13	At the SuperNode, busy FBUS 1: **>FBUS** **>BSY FBUS 1** **>QUIT**	

—continued—

Procedure 5 – Post-Cutover DS30 LPP Link Move (continued)

Step	Action	Observation
	-------SUPERNODE --- SuperNode Commands ---SUPERNODE-------	
14	At the SuperNode, load LIM UNIT 1: **>LOADPM UNIT 1**	"LIM x UNIT 1 Load Initiated." "LIM x UNIT 1 Load Passed."
15	At the SuperNode, return LIM UNIT 1 to service: **>RTS UNIT 1**	The following will be displayed at the MAP: Links_OOS Taps_OOS UNIT 0: INSV . . UNIT 1: ISTB . .
16	At the SuperNode, perform an in-service test on UNIT 1 of the LIM: **>TST UNIT 1**	"LIM x UNIT 1 Test Initiated." "LIM x UNIT 1 Test Passed."
17	At the SuperNode: Return the FBUS to service **>FBUS** **>RTS FBUS 1** **>QUIT**	
18	Repeat steps 1 to 18 for all remaining LIMs to be cutover.	

– End –

14.2.6 Procedure 5A – Post-Cutover DS512 SSLPP Link Move

ATTENTION: **If office is equipped with a LPP do not perform this procedure. If office is equipped with a LPP perform procedure 4 "Post-Cutover DS30 Link Move."**

This procedure involves busying and migrating FBUS 1 and MS 1 connection from the SNSE to the now in-service SuperNode.

All commands in this section will be typed by the Applicator. The Applicator will request the field technician to perform cabling and switchbox related tasks at various points in the procedure.

Commands will be performed at both the SNSE and the SuperNode during this procedure. Pay careful attention as to what switch a particular command should be executed on.

Procedure 5A – Post-Cutover SSLPP DS512 Link Move

Step	Action	Observation
1	Have the on-site Installer inspect the switch card being used for FBUS 1 to ensure that the switch on the switchcard is in the SNSE MS position.	LOCAL LED on switchcard must be on. If these LEDs are not as indicated, resolve the problem before continuing.
	---SNSE-------SNSE --- SNSE Commands ---SNSE-------SNSE---	
2	Enter the MS level : **>MAPCI;MTC;MS** If MS 1 has master clock, switch the master to MS 0, otherwise proceed to Step 3: **>SWMAST** **Wait 10 minutes after SWACT to ensure stability.**	
3	Post the FBus card : **>SHELF;CARD <card_#>** where <card_#> is the logical slot location of the NT9X17AD/NT9X62BA pair (Physical - 19).	Example: Card 12 Protocol Port 0_____3 MS 0 . DS512 4 . - - - MS 1 . DS512 4 . - - -

—continued—

Procedure 5A – Post-Cutover SSLPP DS512 Link Move (continued)

Step	Action	Observation
	---SNSE-------SNSE --- SNSE Commands---SNSE-------SNSE---	
4	Determine which port (0-3) of the NT9X62BA card will be connected to the SSLPP for MS 1. Record this value as <port_#> for future reference **> TRNSL 1** **Port_# _____** The last line indicates which port is being used. Port 0 in this example.	Trnsl 0 Site Flr RPos Bay_id Shf Description Slot EqPEC HOST 00 A00 DPCC 0 39 MS 0:0:17 23 9X17AD FRNT HOST 00 A00 DPCC 0 39 MS 0:0:17 23 9X62BA BACK Port 0=LIS (OK :Opened)
5	Display the FBus taps : **>PORT <port_#>** where <port_#> was determined above.	Example: Card 12 Port 00 FBus Tap: 0 4 8 MS 0 . M . cccc cccc c--- MS 1 . . . .---
6	Manually busy FBus 1 : **>BSY 1 FBUS FORCE** **>YES**	Example: Request to MAN BUSY MS: 1 shelf: 0 card:12 FBus submitted. Request to MAN BUSY MS: 1 shelf: 0 card:12 FBus passed.
7	Manually busy the MS port that terminates the DS512 fiber link: **> CARD <card_#>** **>BSY 1 PORT <port_#>** where <port_#> was determined above.	Example: Request to MAN BSY MS: 1 shelf: 0 card:12 port: 0 submitted. Request to MAN BSY MS: 1 shelf: 0 card:12 port: 0 passed.
8	At the back of the SSLPP have the on-site Installer reconnect the FBus mate connections. Cable assembly NT9X9820 connects the LIS Fiber Interface Paddle boards (NT9X98AA) in slots 7R and 32R together on the same shelf. The cable connects onto port J1. This cable is to be located on the second from bottom connector.	

—continued—

Procedure 5A – Post-Cutover SSLPP DS512 Link Move (continued)

Step	Action	Observation
9	At the front of the MS ST Fiber Switchbox locate the switchcard that controls the FBus 1 connections to the SNSE and SuperNode. **Move the switch S1 down to position B**. This will connect FBus 1 on the SSLPP to the SuperNode MS 1.	
	-------SUPERNODE --- SuperNode Commands ---SUPERNODE-------	
11	Enter the MS level : **>MAPCI;MTC;MS** If MS 1 has master clock, switch the master to MS 0 **>SWMAST** **Wait 10 minutes to ensure stability.**	
12	Access the Fbus level: **>SHELF** **>CARD <card_#>** <card_#> = logical slot that the NT9X17AD / NT9X62BA is in (physical slot minus 6)	Example: Card 17 Fbus Tap 0 4 8 MS 0 . ... MS 1 O .... e.g., an NT9X17AD / NT9X62BA combination located in physical slot 23 would be posted as **>CARD 17.**
13	If card for MS 1 is OFFL, BSY and RTS: **>BSY 1** **>RTS 1**	
14	Determine which port (0-3) of the NT9X62BA card will be connected to the SSLPP for MS 1. Record this value as <port_#> for future reference **> TRNSL 1** **Port_# _____** The last line indicates which port is being used. Port 0 in this example.	Trnsl 0 Site Flr RPos Bay_id Shf Description Slot EqPEC HOST 00 A00 DPCC 0 39 MS 0:0:17 23 9X17AD FRNT HOST 00 A00 DPCC 0 39 MS 0:0:17 23 9X62BA BACK Port 0=LIS (OK :Opened)

—continued—

Procedure 5A – Post-Cutover SSLPP DS512 Link Move (continued)

Step	Action	Observation
	-------SUPERNODE --- SuperNode Commands ---SUPERNODE-------	
15	Display the FBus taps : **>PORT <port_#>** where <port_#> is 0-3	Example: Card 12 Port 00 FBus Tap: 0 4 8 MS 0 . . . .--- MS 1 . . . .---
16	Manually busy FBus 1: **>BSY 1 FBUS**	Example: Request to MAN BUSY MS: 1 shelf: 0 card:12 FBus submitted. Request to MAN BUSY MS: 1 shelf: 0 card:12 FBus passed.
17	Return to Service the FBus 1: **>RTS 1 FBUS**	Example: Request to RTS MS: 1 shelf: 0 card:17 port: 0 FBus submitted. Request to RTS MS: 1 shelf: 0 card:17 port: 0 FBus passed.
19	Perform an in service test on FBus 1: **>TST 1 FBUS**	Example: Request to TEST INSV MS: 0 shelf: 0 card:17 port: 0 FBus submitted. Request to TEST INSV MS: 0 shelf: 0 card:17 port: 0 FBus passed.
20	Return to service all MAN BUSY taps on MS 1 **>RTS 1 TAP <tap #>** where <tap #> is the man busy taps	Example:
21	Repeat steps 1 to 20 for all SSLPPs to be cut over.	

– End –

14.2.7 Procedure 6 – Collect DPP settings

1 **App/SN** If DIRP subsystem is DPP, perform this procedure. Display the current DPP settings to hard copy, and change if different from the data obtained during PRESWACT procedure *Switch IOCs to SuperNode*.

a. `> MAPCI NODISP;MTC;IOD;DPP AMA`

b. `> COLLPSW`
*If different, perform **substeps c** and **d**; otherwise, go to **substep e**.*

c. `> COLLPSW 1 <4_digits> <6_digits>`

d. `> COLLPSW 2 <4_digits> <6_digits>`

e. `> AMATPSW`
*If different, perform **substep f**; otherwise, go to **substep g**.*

f. `> AMATPSW <4_digits> <6_digits>`

g. `> AMAHRS`
*If different, perform **substep h**; otherwise, go to **substep i**.*

h. `> AMAHRS <start_hour> <end_hour>`

i. `> VALPARM INVALID`
*If different, perform **substep j**; otherwise, go to **substep k**.*

j. `> VALPARM INVALID <threshold>`

k. `> ERRMAP ACT`
*If different, perform **substeps l** and **m**.*

l. `> ERRMAP <alarm_no> <type> <level>`
Repeat for each alarm that is different.

m. `> VS STDBY`
Verify the loadname is correct for the to_PCL load and firmware is at least DOS 21.08.

WARNING: Do not continue if the DPP load name or firmware version is incorrect.

14.2.8 Procedure 7 – Demount DIRP on SNSE

On the SNSE close, dirpcopy, and demount all DIRP subsystems on IOC 0. For offices using 2 CIOCs, close, dirpcopy, and demount all DIRP subsystems on IOC <x> (the former IOM 0).

Note: It is important to follow accepted Operating Company practices while demounting DIRP subsystems. The Operating Company may require that some subsystems be copied prior to demounting.

1 **App/SNSE** To allow changes in table DIRPSSYS, in table OFCSTD change the value of tuple DIRPKILL_IN_EFFECT to 'Y'.

```
> TABLE OFCSTD
> RWOK ON;OVE;VER OFF
> POS DIRPKILL_IN_EFFECT
> CHANGE 2 Y
> QUIT
```

---

2 **App/SNSE** Prior to closing all DIRP subsystems, in table DIRPSSYS set MINFILES to 0 (zero) for all subsystems.

```
> TABLE DIRPSSYS;OVE;VER OFF
> CHANGE MINFILES 0;DOWN
```

Repeat until "Bottom" message.

```
> QUIT
```

---

3 **Site and App/SNSE** On the SNSE, close all DIRP subsystems.

```
> MAPCI;MTC;IOD;DIRP
```

> CLOSE <**subsystem**> ACTIVE

Repeat for DIRP subsystems.

---

4 **Site and App/SNSE** Put up a tape on MTD 0. Go to DSKUT and do LISTVOL on the volume with the unprocessed files you want to copy.

Enter either

> DIRPAUTO <**subsystem**> *{steps you through the process}*

or MOUNT the tape and enter

> DIRPCOPY <**subsystem**> <**filename**> T0

where <filename> refers to the unprocessed DIRP files. These start with the letter "U" (for example, U890327133614AMA).

Repeat for all unprocessed files.

—continued—

Procedure 7
Demount DIRP on SNSE (continued)

5 **Site and App/SNSE** On the SNSE, demount all DIRP subsystems.

```
> DMNT <subsystem>                    {retain for later use}
```

Repeat for all DIRP subsystems.

---

6 **App/SNSE** On the SNSE, in table OFCSTD restore the value of tuple DIRPKILL_N_EFFECT to 'N' (the original setting from step 1).

```
> TABLE OFCSTD
> RWOK ON;OVE;VER OFF
> POS DIRPKILL_N_EFFECT
> CHA 2 N
> QUIT ALL
```

14.2.9 Procedure 8 – Switch CIOC with IOC 0

1 **App/SNSE** On the SNSE, except for CARD 1 (MTD 0) and CARD 2 (terminal controllers), BSY and OFFL any unneeded devices on IOC 0. For offices using 2 CIOCs, do this for devices on IOC <x> (the former IOM 0).

CAUTION
When Installer switches the CIOC with IOC 0 the SNSE dial-ups will become the SuperNode dial-ups. Proceed with caution.

---

2 **Inst/SN** At this time the on-site Installer will switch *or* move the remaining IOC from the SNSE to the SuperNode. If office is not using 2 CIOCs, perform substep 2a. If site is using 2 CIOCs, perform substep 2b.

a. Instruct the on-site Installer to perform the applicable IM procedure to switch the CIOC with IOC 0.

b. Instruct the on-site Installer to perform the applicable IM procedures to move IOC <x> (the former IOM 0) from the SNSE to the SuperNode.

---

3 **Site and App/SN** On the SuperNode, Return To Service any device not INSV; then mount DIRP subsystems.

a. If DIRP subsystem is on disk.

```
> MAPCI;MTC;IOD;DIRP
```

> MNT <**subsystem**> <**disk**> *{subsystems from previous procedure}*

Repeat MNT for all DIRP subsystems on disk.

b. If DIRP subsystem is on tape, DPP, or BMC.

```
> MOUNT <x> FORMAT <volume_name>
> DEMOUNT T<x>
> MAPCI;MTC;IOD;DIRP
> MNT <subsystem> T<x>
```

Repeat MNT for all DIRP subsystems.

c. Close all DIRP standby subsystems to clear the “I” alarm under the IOD banner of the MAP.

```
> CLOSE <subsystem> STDBY 1
```

Repeat for all DIRP subsystems.

```
> QUIT MAPCI
```

14.2.10 Procedure 9 – Connect E2A telemetry cables

1 **Inst/SN** At this time the on-site Installer will perform applicable IM procedures to connect E2A to SuperNode.

---

2 **Inst/SN** The on-site Installer will perform applicable IM procedures to transfer interbay alarm cables from the SNSE to SuperNode.

14.2.11 Procedure 10 – Check MPC loads

1 **App/SN** Offices equipped with MPC boards and feature NTX273AA.

a. List the device that contains the MPC peripheral load.

b. Access table MPC and replace all tuples in order to bind the load name to the FID.

```
> TABLE MPC;OVE
```

c. Replace all tuples in table MPC in order to bind the load name to the FID.

```
> CHANGE
```

```
> <cr>
```

Repeat the "<cr>" until "Tuple to be changed" message.

```
> Y                    {for confirmation}
```

```
> DOWN
```

Repeat this substep (**c**) until "Bottom" message.

14.2.12 Procedure 11 – AMA verification

1 **Site/SN** Perform the following for AMA verification.

a. Mount the AMA tape that was demounted above as a regular tape, and use the AMADUMP to verify the AMA entries on site (reference *NTP 297-1001-119N*). For contingency action, use ADUMP from the TAS NON-RES tape.

b. For CDR verification, use command,

```
> CDRDUMP <filename> <format>
```

Format is HEX, EBCDIC, or ASCII.

14.2.13 Procedure 12 – Mount parallel DIRP subsystems

1 **Site/SN** Bring up parallel devices (as required) using the preformatted volumes.

a. In table DIRPSSYS position on a DIRP subsystem requiring a parallel volume. Note the PARLPOOL name for the DIRP subsystem selected.

Example:
```
TABLE DIRPSSYS;POS AMA
```

b. In table DIRPPOOL position on the parallel pool number associated with the PARLPOOL from table DIRPSSYS. Then activate the parallel volume by datafilling the volume name.

Examples:
```
TABLE DIRPPOOL;POS 62          {pool for AMAPOOL}
CHA VOLUME23 T4
or CHA VOLUME23 D010PAMA
```

Note: Repeat **substeps a** and **b** for each parallel volume to be activated.

d. Quit the MAPCI level.

```
> QUIT MAPCI
```

---

2 Ensure all regular and parallel devices are working for all available billing subsystems in DIRP.

14.2.14 Procedure 13 – Finish POSTSWACT

1 **App/SN** Continue POSTSWACT as follows:

For SuperNode CM/SLM:

a. Have the on-site Installer release the JAM on the Inactive RTIF and SYNC the processors as follows:

```
> MAPCI;MTC;CM
> SYNC
> YES                                   {for confirmation}
> QUIT MAPCI
```

b. Perform the following:

```
> REXTEST SUSPEND ALL
> PRSM
> AUTOPROC ALL STOP;AUTOPROC ALL DELAY
> YES                                   {for confirmation}
> QUIT
```

Note: These commands allow final activities to occur without interruption, including dumping an image of the new software load.

c. Continue POSTSWACT as follows:

```
> BCSUPDATE;POSTSWACT
```

Note: At this point the BCSUPDATE will execute the remaining POSTSWACT steps and set them to "complete" when they pass. If any step fails to complete, follow given instructions to correct the problem, then continue by typing:

```
> BCSUPDATE;POSTSWACT
```

—continued—

Procedure 13
Finish POSTSWACT (continued)

For SuperNode XA-Core:

a. Perform the following:

```
> REXTEST SUSPEND ALL
> PRSM
> AUTOPROC ALL STOP;AUTOPROC ALL DELAY
> YES                                    {for confirmation}
> QUIT
```

Note: These commands allow final activities to occur without interruption, including dumping an image of the new software load.

b. Continue POSTSWACT as follows:

```
> BCSUPDATE;POSTSWACT
```

Note: At this point the BCSUPDATE will execute the remaining POSTSWACT steps and set them to "complete" when they pass. If any step fails to complete, follow given instructions to correct the problem, then continue by typing:

```
> BCSUPDATE;POSTSWACT
```

c. As part of the POSTSWACT process, when prompted for XA_UNSPLIT answer “Y” for yes.

```
> Y
```

14.2.15 Procedure 14 – Erase Application files

1 **App/SN** Clean up SFDEV by erasing any application-related files (for example: DRNOW, FEATDATA, SITEINFO and all patches).

---

2 **App/SN** Clean up disks by erasing any application-related files (for example: JFA, CFWA . . .).

---

3 **Site/SN** Restore any needed SITE files to SFDEV.

---

4 **App/SN** Unload all SNSE to SN Conversion process modules that were loaded during the SuperNode Dump and Restore Procedure.

```
> TOOLSUP
> ACCESS ON UNLOAD
> <password>
> QUIT ALL
> UNLOAD <module_name>
```

For SuperNode CM/SLM:

Repeat for the following modules:

```
RTSDRWRS*
RETTABX
RETROUI
RETROCI
RETLINES*
BSYALLUI
BSYALLEN
BSYALLDH*
BSYALLCR
BSYALLC7
BSYALLOP
```

—continued—

Procedure 14
Erase Application Files (continued)

For SuperNode XA-Core:

Repeat for the following modules:

XARTSDRW*
XARETXFR
XARETUI
XARETRCI
XARETLNS*
BSYALLUI
BSYALLEN
BSYALLDH*
BSYALLCR
BSYALLC7
BSYALLOP

*Not required for GSM/MTX loads.

---

5 **App/SN** After unloading all SNSE to SN Conversion modules, delete the module files from the SuperNode switch.

If the module files are located in SFDEV, perform the following to erase the files:

```
> ERASESF <file_name>
```

Note: Repeat ERASESF command for all modules in SFDEV.

OR

If the module files are located on disk, perform the following to erase the files:

```
> DISKUT;LF <volume_name>
> DDF <file_name>
```

Note: Repeat DDF command for all module files located on disk.

```
> QUIT ALL
```

14.2.16 Procedure 15 – Start Journal File and LOGOUT

1 **App/SN** Start journal file and verify started.

```
> JF START
> MAPCI;MTC;IOD;DIRP
> QUERY JF
```

Note 1: QUERY JF should respond with “AVAIL.” If a standby device is being used, both active and standby volumes should be marked “AVAIL.”

Note 2: Repeat this step for all journal file devices.

---

2 **App/SN** Quit the MAP level and logout of the switch.

```
> QUIT ALL
> LOGOUT
```

14.2.17 Procedure 16 – Dump Office Image

1	**Inst/SN** The on-site Lead Installer will dump an office image of SuperNode to disk and back-up the image file to tape cartridge.
2	Send logs to tape for 24 hours and retain on site for 2 weeks.
3	Update the software change control log.

This completes the SNSE to SuperNode Conversion.

15 Revert to SNSE procedures

Perform this procedure only if a controlled REVERT is required after the conversion to the SuperNode has already occurred.

15.1 Warnings

Before beginning, confer with online support for any possible changes to the procedure to minimize the system outage.

Using the LTP and TTP levels of the MAP, and TOPS operator(s), verify all essential services or high profile customers (that is, police and emergency bureaus, hospitals, and radio stations) are not in emergency call processing mode.

In *Procedure 3: Revert to SNSE* (below) work quickly to minimize downtime once **step 2** is performed—Call processing ceases until that step is complete.

The on-site Installer throws the master switchboxes only when Applicator indicates to do so.

CRITICAL WARNING: No activity is to be performed on the SuperNode CM, MS, or CLOCK until it is cleared by the software delivery applicator. **Failure to comply may result in a system restart.**

Confirm FX voice line numbers with Site and establish voice contact on same if this is not already the case.

15.2 Procedure

15.2.1 Procedure 1 – Before Revert

1 **Site and App** Do not proceed until both the Operating Company and Nortel Networks on-line support agree that a revert to the SNSE is necessary.

---

2 **Site/SN** Perform manual DIRP subsystem transfers, and remove subsystem tape or close the active file on disk.

```
> MAPCI;MTC;IOD;DIRP
```

```
> ROTATE <subsystem>
```

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

Repeat for each DIRP subsystem.

Put up a tape on MTD 0. Go to DSKUT and do LISTVOL on the volume with the unprocessed files you want to copy.

Enter either
`> DIRPAUTO <subsystem>` *{steps you through the process}*

or MOUNT the tape and enter

`> DIRPCOPY <subsystem> <filename> T0`
where <filename> refers to the unprocessed DIRP files. These start with the letter "U" (for example, U890327133614AMA).

Repeat for each DIRP subsystem.

---

3 `> RFMT TAB DIRPPOOL ALL PUT FILE DIRP_INAC SFDEV`

15.2.2 Procedure 2 – Restart Active SNSE

CAUTION
Do not perform this procedure if the Restart Reload was already done and the Active side processor is now flashing A1.

1 **App/SNSE** Perform a RESTART RELOAD on the SNSE.

```
> RESTART RELOAD ACTIVE
> YES                                    {for confirmation}
```

---

2 **App and Site** Confirm that the Active side processor is flashing A1.

---

3 **App/SNSE** LOGIN on the SNSE, and DMNT and MNT any dead subsystems at the DIRP level of the MAP.

```
<break>
? LOGIN
Enter username and password        {system response}
> <username> <password>
or  > <username>
    > <password>

> MAPCI;MTC;IOD;DIRP
> QUERY AMA ALL
```

Note: Recover DIRP subsystems as required.

15.2.3 Procedure 3 - Revert to SNSE

1 **SN and SNSE/All** Revert to the SNSE.

a. **App/SN** Post the MS SHELF 0 level of the MAP to observe and verify that all PORTS go "S" (SYSB) once the master switches are thrown (this may take some time depending on the office size).

b. **Inst/MSBX** At the master switchboxes, verify the "SN" LED is "ON" and the "DISC" LED is "OFF".

c. **Inst/RSBX** At all of the remote switchboxes, verify the "LOC" LED is "OFF" and confirm this information to the Applicator.

Note: If any "LOC" LEDs are "ON", the remote switchbox may be defective.

d. **Inst/RSBX** Once all the "LOC" LEDs are confirmed "OFF" at all remote switchboxes, the on-site Installer throws the switch from the "SN" position to the "SNSE" position.

---

2 Switch activity from the SuperNode to the SNSE.

a. **App/SNSE** On the SNSE, perform a Restart Reload:

```
> RESTART RELOAD ACTIVE

> YES                                    {for confirmation}
```

ATTENTION: Do not enter confirmation until the on-site Installer is ready. As soon as the Restart is confirmed (by entering YES), IMMEDIATELY GO TO **substep b**.

WARNING: Substep b must be done immediately after the Restart Reload is initiated and before the SNSE RTIF flashes A1.

b. **Inst and App/MSBX** Applicator instructs the on-site Installer to throw the master switchboxes from the "SN" position to the "SNSE" position.

c. **Inst and App/MSBX** The on-site Installer confirms to the Applicator that the "SN" LED is "OFF" and the "SNSE" LED is "ON" for all the master switchboxes.

—continued—

Procedure 3
REVERT to SNSE (continued)

d. **App/SN** Perform the following steps on the SuperNode while the Restart Reload is taking place on the SNSE:

On the SN, repeat the following for each LPP in the office.

```
> MAPCI;MTC;PM;POST LIM <lim_no>
> FBUS;BSY FBUS 0 FORCE
> Y
> QUIT
```

```
> BSY UNIT 0 FORCE
> Y
> QUIT MAPCI
```

OR

On the SN, repeat the following for each SSLPP in the office.

```
> MAPCI;MTC;MS;SHELF 0;CARD <card_no>
> PORT <port_no>
> BSY 0 FBUS FORCE
> Y
> QUIT MAPCI
```

e. **Inst/SNSE** Verify the SNSE is flashing “A1” (within 5 minutes).

15.2.4 Procedure 4 – LOGIN and begin POST Revert Activities

1 **Site and App/SNSE** Login on the SNSE.

ATTENTION: Work quickly to complete the following steps.

```
<break>

? LOGIN

Enter username and password        {system response}
> <username> <password>
```

or
```
> <username>
> <password>
```

---

2 **App/SNSE** Verify the DATE and time are correct

```
> DATE
```

WARNING: If the date and time are not correct, change it immediately before DIRP subsystems are allocated.

To change date:

```
> SETDATE <dd mm yy>
```

To change time:

```
> SETTIME <hour> <minute>
```

---

3 **App/SNSE** Start POSTSWACT

```
> BCSUPDATE;POSTSWACT
```

Note 1: BCSUPDATE will execute all POSTSWACT steps required after the cutover, and set them to "complete" when they pass. If any step fails to complete, POSTSWACT will stop and display additional information. Use the information to investigate and correct the problem. After making corrections, continue POSTSWACT by typing:

```
> BCSUPDATE;POSTSWACT
```

Note 2: If no problems are encountered, POSTSWACT stops after step BEGIN_TESTING and waits for the SITE to complete TEST CALLS that were identified prior to cutover.

—continued—

Procedure 4
LOGIN and Begin POST Revert Activities (continued)

4 ***IMPORTANT*: After starting POSTSWACT, ensure the following actions take place:**

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

ATTENTION – DEPENDING ON WHEN THE REVERT TO SNSE PROCEDURE IS INITIATED, THIS STEP MAY NOT BE APPLICABLE: *For adjunct billing systems (SDM or FP), if the Post Cutover steps in Appendix E or F have been completed, then this step does not apply and the Abort Procedure steps in the appropriate appendix must be performed. If the Post Cutover steps in Appendix E or F have not been completed, then this step is applicable.*

5 **App/SNSE** For offices using adjunct billing systems (FP or SDM), perform the following actions to ensure the back-up disk volumes are OK and collecting AMA records.

For SDM:

```
> MAPCI;MTC;APPL;SDMBIL;STATUS

> CONF VIEW GCDR                    {for GSM loads}
OR
> CONF VIEW AMA                     {for NA100 loads}
```

Ensure Stream is activated for SDM billing.

```
> QUIT MAPCI
```

For FP:

```
> MAPCI;MTC;APPL;OAMAP;DRM

> INFO GCDR VOL ALL
```

Ensure volumes are in OK State (not mounting).

```
> QUIT MAPCI
```

—continued—

Procedure 4
LOGIN and Begin POST Revert Activities (continued)

6 **Site and App/SNSE** Confirm that all affected DIRP subsystems are properly activated.

```
> MAPCI;MTC;IOD;DIRP
> QUERY AMA ALL
```

If applicable, allocate DIRP subsystems for standby AMA.

```
> QUIT MAPCI
```

---

7 **App/SNSE** On the SNSE, perform the following actions:

FOR LPP:

```
> MAPCI;MTC;PM;POST LIM <lim_no>
> BSY UNIT 0 FORCE                          {from a SYSB state}
> Y
> FBUS;BSY FBUS 0 FORCE                     {from a SYSB state}
> y
> QUIT MAPCI
```

FOR SSLPP:

```
> MAPCI;MTC;MS;SHELF 0;CARD <card_no>
> PORT <port_no>
> BSY 0 FBUS FORCE                          {from a SYSB state}
> Y
> QUIT MAPCI
```

Note: Ensure that Unit 1 of all LPP's or FBUS 1 of all SSLPP's have returned or are returning to an in service condition.

---

8 **Site** Verify 911 test calls and that all Emergency Services are functioning, then perform the TEST CALLS that were identified prior to Cutover. Refer to the *Post conversion test scripts in Appendix C*.

Note: Verify AMAB logs in conjunction with each test call made.

---

9 ***IMPORTANT:*** If no problems are encountered, POSTSWACT stops after step BEGIN_TESTING and waits for the Operating Company to complete call testing.

15.2.5 Procedure 5 – Assure peripheral recovery

1 **App/SNSE*:*** At this time it may be necessary to initiate manual recovery of some PMs. Ensure all ASUs (LIU7, EIU, XLIU, FRIU, etc.) are returned to an in-service condition.

---

2 **App/SNSE** Go to the NET level of the MAP and verify that all networks are in service.

```
> NET
> BSY <plane> <pair>
> RTS <plane> <pair>                    {for network planes not INSV}
```

Note: Repeat for each network plane not INSV.

---

3 **App/SNSE** List the device containing the PM loads.

```
> DISKUT
> LISTVOL <pmload_volume> ALL
> QUIT
```

---

4 **App/SNSE** At the PM level of the MAP recover peripherals as needed.

```
> MAPCI;MTC;PM
```

a. For all SYSB PMs not under 'Maintenance':

```
> POST SYSB
```

```
> RTS UNIT <nn>
```
or
```
> BSY UNIT <nn>;RTS UNIT <nn> FORCE NOWAIT
```
where <nn> refers to the ACTIVE unit

```
> NEXT
```

Repeat as required.

b. For all MANB PMs:

```
> POST MANB
```

```
> LOADPM UNIT <nn> CC
```
or
```
> LOADPM UNIT <nn> CC NOWAIT
```
where <nn> refers to the ACTIVE unit

```
> RTS UNIT <nn>
```
or
```
> RTS UNIT <nn> FORCE NOWAIT
```
where <nn> refers to the ACTIVE unit

```
> NEXT
```

Repeat as required.

15.2.6 Procedure 6 – Assure carrier and trunk recovery

1 **App/SNSE** Go to the CARRIER level and confirm circuits are in proper states according to SNSE data.

---

2 **App/SNSE** Verify log systems have started or start them manually.

---

3 **App/SNSE** Correct trunk states.

```
> MAPCI;MTC;TRKS;TTP
> POST A INI
> SEND SINK
> REPEAT 100 (BSY;RTS;NEXT)
```

Repeat until no more trunks are posted.

```
> SEND PREVIOUS
> QUIT MAPCI
```

Put up the Retrofit delta tape.

```
> MOUNT <x>;LIST T<x>
> COPY MB$TRKS SFDEV
> COPY RES$TRKS SFDEV
> DEMOUNT T<x>
> LISTSF ALL
> MAPCI NODISP;MTC;TRKS;TTP
> READ MB$TRKS
> READ RES$TRKS
```

15.2.7 Procedure 7 – Assure attendant console recovery

1 **Site and App/SNSE** Ensure attendant consoles (ATTCONS) are in service. If any are not in service

```
> MAPCI NODISP;MTC;LNS;LTP;LEVEL IBNCON
```

```
> SELECT C <n>;BSY;RTS
```

where <n> is console number

Repeat until all consoles are in service.

15.2.8 Procedure 8 – Check for dial tone

1 **Site/SNSE** If not already done,

Check for dial tone on all LMs, RLMs, LCMs, or RLCMs.

Execute critical call processing tests.

15.2.9 Procedure 9 – Stabilize front end

1 **App/SNSE** For SNSE CM/SLM offices, if a RESTART RELOAD was used in Procedure 3, step 2, then SYNC the processors.

Note: This step does not apply to SNSE XA-Core offices.

```
> MAPCI;MTC;CM;SYNC
```

```
> QUIT MAPCI
```

15.2.10 Procedure 10 – Restore IOC 1 and DIRP

1 **Site and App/SN** Move IOC 1 and higher to the SNSE.

SN Set MINFILES to 0 (zero) for all subsystems.

Turn ON access to RWOK using TASTOOLS.

```
> TABLE OFCSTD;VER OFF;OVE;VER OFF
> REP DIRPKILL_IN_EFFECT Y
```

Turn off access to RWOK.

```
> TABLE DIRPSSYS;OVE;VER OFF
> CHANGE MINFILES 0;DOWN
```

Repeat until "Bottom" message.

```
> QUIT
```

---

2 **Site/SN** Close, copy, and demount all subsystems.

```
> MAPCI;MTC;IOD;DIRP
> CLOSE <subsystem> ACTIVE
```

Repeat CLOSE for all DIRP subsystems.

Put up a tape on MTD 0. Go to DSKUT and do LISTVOL on the volume with the unprocessed files you want to copy.

Enter either

`> DIRPAUTO <subsystem>` *{steps you through the process}*

or MOUNT the tape and enter

`> DIRPCOPY <subsystem> <filename> T0`
where <filename> refers to the unprocessed DIRP files. These start with the letter "U" (for example, U890327133614AMA).

Repeat for all unprocessed files.

`> DMNT <subsystem>` *{retain for later}*

Repeat for all DIRP subsystems.

Stop all log devices on IOC 1 and higher. On IOC 1 and higher: BSY and OFFL all devices, BSY IOC, OFFL IOC.

Switch IOC 1 and higher by removing the SuperNode cables and replacing them with "C00" and "C01" connectors.

Note: Cable C00 must connect to CMC 1 and cable C01 must connect to CMC 0.

—continued—

Procedure 10
Restore IOC 1 and DIRP (continued)

3 **Site and App/SNSE** RTS IOC and all devices on IOC 1 and higher.

Site Assign DIRPSSYSs on IOC 1 and higher. If on disk, verify no volume "IN ERROR" with QUERY <subsystem> ALL.

---

4 **Site/SNSE** If DIRP subsystem is on disk.

```
> MAPCI;MTC;IOD;DIRP
> MNT <subsystem> <disk>   {subsystems from previous procedure}
```

Repeat MNT for all DIRP subsystems on disk.

---

5 **Site/SNSE** If DIRP subsystem is on tape, DPP or BMC.

```
> MOUNT <x> FORMAT <volume_name>
> DEMOUNT T<x>
> MAPCI;MTC;IOD;DIRP
> MNT <subsystem> T<x>   {subsystems from previous procedure}
```

Repeat this step for all DIRP subsystems.

---

6 **Site/SNSE** Restore parallel subsystems that were assigned.

```
> TABLE DIRPSSYS;POS <ssys_name>
> CHANGE PARVOL <vol_name>
> QUIT ALL
```

15.2.11 Procedure 11 – Collect DPP settings

1 **App** If DIRP subsystem is DPP, perform this step while the Site performs their tests. Display the current DPP settings to hard copy, and change if different from the data obtained during procedure *Switch IOCs to SuperNode* (above).

a. `> MAPCI NODISP;MTC;IOD;DPP AMA`

b. `> COLLPSW`
*If different, perform **substeps c** and **d**; otherwise, go to **substep e**.*

c. `> COLLPSW 1 <4_digits> <6_digits>`

d. `> COLLPSW 2 <4_digits> <6_digits>`

e. `> AMATPSW`
*If different, perform **substep f**; otherwise, go to **substep g**.*

f. `> AMATPSW <4_digits> <6_digits>`

g. `> AMAHRS`
*If different, perform **substep h**; otherwise, go to **substep i**.*

h. `> AMAHRS <start_hour> <end_hour>`

i. `> VALPARM INVALID`
*If different, perform **substep j**; otherwise, go to **substep k**.*

j. `> VALPARM INVALID <threshold>`

k. `> ERRMAP ACT`
*If different, perform **substeps l** and **m**.*

l. `> ERRMAP <alarm_no> <type> <level>`
Repeat for each alarm that is different.

m. `> VS STDBY`
Verify the loadname is correct for the to_PCL load and firmware is at least DOS 21.08.

WARNING: Do not continue if the DPP load name or firmware version is incorrect.

15.2.12 Procedure 12 – Clear DIRP alarms

1 **Site and App/SNSE** Close all DIRP standby subsystems to clear the “I” alarm under the IOD banner of the MAP.

```
> CLOSE <subsystem> STDBY1
```

Repeat CLOSE for all DIRP subsystems.

```
> QUIT MAPCI
```

15.2.13 Procedure 13 – Restore MPC loads

1 **App/SNSE** For offices equipped with MPC boards and feature NTX273AA.

a. List the device which contains the MPC peripheral load.

b. Access table MPC.

```
> TABLE MPC;OVE
```

c. Replace all tuples in table MPC in order to bind the load name to the FID.

```
> CHANGE
```

```
> <cr>
```

Repeat the "<cr>" until "Tuple to be changed" message.

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

```
> DOWN
```

Repeat this substep (**c**) until "Bottom" message.

15.2.14 Procedure 14 – Finish POSTSWACT

1 **App/SNSE** POSTSWACT will STOP at step BEGIN_TESTING to allow the SITE to complete call testing. When testing is complete and the front end has been stabilized, continue POSTSWACT as follows:

```
> BCSUPDATE;POSTSWACT
```

Note: At this point the BCSUPDATE will execute the remaining POSTSWACT steps and set them to "complete" when they pass. If any step fails to complete, follow given instructions to correct the problem, then continue by typing:

```
> BCSUPDATE;POSTSWACT
```

15.2.15 Procedure 15 – Restore office parameters

1 App/SNSE

a. If NTX077AA is present, verify table DSLIMIT, tuple STOREFS, is set to 458752; otherwise, skip to **substep 1b**.

Turn ON access to RWOK using TASTOOLS.

```
> TABLE DSLIMIT;VER OFF
> POS STOREFS
> CHA DSMAX 458752
```

Turn off access to RWOK.

b. If NTX077AA is *not* present, verify table DSLIMIT, tuple STOREFS, is set to 65536.

Turn ON access to RWOK using TASTOOLS.

```
> TABLE DSLIMIT;VER OFF
> POS STOREFS
> CHA DSMAX 65536;QUIT
```

Turn off access to RWOK.

---

2 App/SNSE Change tuple NODEREXCONTROL in table OFCVAR back to the original value.

15.2.16 Procedure 16 – Erase Application files

1 **App/SNSE** Clean up SFDEV by erasing any application-related files (for example: DRNOW, FEATDATA, SITEINFO and all patches).

---

2 **App/SNSE** Clean up disks by erasing any application-related files (for example: JFA, CFWA . . .).

---

3 **Site/SNSE** Restore any needed SITE files to SFDEV.

---

4 **App/SNSE** Unload all SNSE to SN Conversion process modules that were loaded during the SNSE Dump and Restore Procedure.

```
> TOOLSUP
> ACCESS ON UNLOAD
> <password>
> QUIT ALL
> UNLOAD <module_name>
```

For SuperNode CM/SLM:

Repeat for the following modules:

```
RTSDRWRS*
RETTABX
RETROUI
RETROCI
RETLINES*
BSYALLUI
BSYALLEN
BSYALLDH*
BSYALLCR
BSYALLC7
BSYALLOP
```

—continued—

Procedure 16
Erase Application Files (continued)

For SuperNode XA-Core:

Repeat for the following modules:

XARTSDRW*
XARETXFR
XARETUI
XARETRCI
XARETLNS*
BSYALLUI
BSYALLEN
BSYALLDH*
BSYALLCR
BSYALLC7
BSYALLOP

*Not required for GSM/MTX loads.

15.2.17 Procedure 17 – Start Journal File and LOGOUT

1 **App/SNSE** Start journal file and verify started.

```
> JF START
> MAPCI;MTC;IOD;DIRP
> QUERY JF
```

Note 1: QUERY JF should respond with “AVAIL.” If a standby device is being used, both active and standby volumes should be marked “AVAIL.”

Note 2: Repeat this step for all journal file devices.

---

2 **App/SNSE** Quit the MAP level and logout of the switch.

```
> QUIT ALL
> LOGOUT
```

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16 Appendix A: Command Summaries

16.1Using TABAUDIT and AUTOTABAUDIT

Checking tables for data inconsistencies before a software upgrade is necessary to ensure that all tables are free of datafill errors and each table has valid data. This is accomplished by running TABAUDIT. This tool is designed to thoroughly verify the integrity of table data on a DMS switch. TABAUDIT will be executed on the active side with the DMS switch in sync. TABAUDIT will only allow one session to be active at any one time.

CAUTION
Review Software Delivery Bulletins and all current Warning Bulletins concerning TABAUDIT before using it.

16.2TABAUDIT

16.2.1 About TABAUDIT

TABAUDIT will verify DMS tables by performing a series of checks on the tables and on the data in the tables. Following is a list of the types of checks that are performed on each table:

- Generic table checks,
- Syntax checks,
- Table specific checks, including routing checks

The generic table integrity checks consist of verifying that each table has a top and a bottom and that no tuples exist beyond these boundaries. Tables are also checked to ensure that no infinite tuple loops exist.

Syntax checks are done on a per tuple basis. Each field in a tuple is checked against its data dictionary definition in order to ensure data validity. These checks are modified to use the logical tuple definition and not the custflds representation.

The routing checks are only performed on tuples that reference routing tables. This type of check verifies the tuple being referenced in the routing tables.

Table-specific checks are done on a per-tuple basis. This type of check verifies the tuple's data for valid data options. (This is implemented using verify procedures in table control software.)

TABAUDIT help

The TABAUDIT increment is used to set up a standard session of TABAUDIT. The increment consists of the following subcommands:

INCLUDE EXCLUDE STATUS RPORT CLEAR EXECUTE

AUTO QUIT HELP INFO

From within the TABAUDIT increment type:

HELP <subcommand>

for further help on subcommand.

Note: the AUTO subcommand is used to enter the AUTOTABAUDIT increment. To set up the TABAUDIT process:

1. Use the INCLUDE command to specify the range of tables to be verified.

2. Use the EXECUTE command to activate the TABAUDIT process.

Following is a typical scenario:

```
> INCLUDE ALL
> EXECUTE
```

These commands will cause all tables on the DMS to be verified.

TABAUDIT examples

Example 1 -- Executing TABAUDIT on a single table.

```
CI:
> TABAUDIT
Enters the TABAUDIT increment.

TABAUDIT:
> INCLUDE <table_name>
Where <table_name> is the name of the table to be verified.
```

```
TABAUDIT:
> EXECUTE
Response first shows a STATUS. If correct, confirm with “YES”
when prompted. TABAUDIT now executes the various data
integrity checks on each tuple of the table.

TABAUDIT:
> REPORT <table_name>
To view the TABAUDIT results.
TABAUDIT:
> QUIT
Leaves the TABAUDIT increment.
```

Example 2 -- Executing TABAUDIT on a range of tables.

```
CI:
> TABAUDIT
Enters the TABAUDIT increment.

TABAUDIT:
> INCLUDE FROM <start_table> TO <stop_table>
To specify a range of tables according to Table DART,

or

TABAUDIT:
> INCLUDE <table_name(s)>
To specify the table or tables to verify. A series of tables
to be included can be specified on a single line with each
table_name being separated by a space.

TABAUDIT:
> EXECUTE
Response first shows a STATUS. If correct, confirm with “YES”
when prompted. TABAUDIT now executes the various data
integrity checks o each tuple of the table.

TABAUDIT:
> REPORT ERRORS
To view the TABAUDIT results.

TABAUDIT:
> QUIT
```

Leaves the TABAUDIT increment.

Note: Use the CLEAR command to clear the list of included tables.

```
TABAUDIT:
> CLEAR INCLUDED
```

Example of TABAUDIT execute

```
TABAUDIT:
> EXECUTE

------------------------------------------------------
|                                                    |
|                 TABAUDIT STATUS                    |
|                                                    |
------------------------------------------------------

The following tables are INCLUDED:

   table OFCOPT (17)

The following tables are EXCLUDED:

   From table ACTPATCH (0)               to table OFCSTD (16).
   From table OFCENG (17)                to table OCFPORT (927).

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

> yes
Creating TABAUDIT summaryfile: SUMMARY$MODEM on SFDEV.
Starting DMS data verification ...

Table OFCOPT: New table control.
Completed tuple checking.
SUMMARY: Tbl OFCOPT: tuples checked 95, passed 95, failed 0.

Data verification is complete.
```

16.2.2 TABAUDIT enhancements (BCS36 and higher)

In BCS36 features were introduced to facilitate TABAUDIT's usage by:

- automating TABAUDIT based on a scheduled time table.
- implementing a report facility that will
  - — report tables that have not been checked.
  - — report the time and date of the last check performed on a table.
  - — report table specific data errors including routing errors.
  - — report syntax errors.
  - — report generic table integrity errors such as false tops, bottoms and holes in tables.
- linking TABAUDIT and TABXFR in order to identify data issues before data move is started.
- adding a PRECHECK step in the BCSUPDATE increment to check which tables in DART have been verified by TABAUDIT.

16.2.3 About AUTOTABAUDIT

This BCS36 feature provides an automated TABAUDIT process, AUTOTABAUDIT. Once the initial parameters are entered, AUTOTABAUDIT has the ability to check data integrity without external guidance. The results of the data checks are maintained, and can later be displayed via a report utility.

AUTOTABAUDIT does not generate reports for each table as the table is being verified the way TABAUDIT does. Instead, all report data may be accessed via the report utility. TABAUDIT, in addition to generating reports as tables are verified, is altered so that such data may be accessed in the same manner as AUTOTABAUDIT's data, by way of the report utility.

The automation of TABAUDIT via a schedule provides the user with the ability to set a time frame within which TABAUDIT should be running. The schedule that governs TABAUDIT execution is based on a 24 hour clock cycle. TABAUDIT activates daily to verify tables' data integrity during a specified time frame until all data is verified. The user may also specify the date on which the TABAUDIT is to be started and stopped by the scheduler.

The parameters required to initiate AUTOTABAUDIT are entered via the AUTO level of the TABAUDIT increment. The AUTOTABAUDIT setup allows the user to specify tables to be verified, when the verification is to take place, the type of

data integrity report, and the report's destination. Following are the various functions added by this feature:

- Schedule the verification of a single table in DART.
- Schedule the verification of a range of tables in DART.
- Schedule the verification of all tables in DART.
- Generate a data integrity report for all tables in DART.
- Generate a data integrity report for all verified tables.
- Generate a list of tables that have not been checked by TABAUDIT.
- Generate a data integrity report for a single table.
- Display the status of the scheduler.
- Activate or deactivate the scheduler.
- Clear scheduling information.
- Have the ability to specify select tables to be included in a table range
- Have the ability to specify select tables not to be checked.

AUTOTABAUDIT uses table DART for the order in which to verify tables' data integrity. Table DART, if not previously sorted, is sorted using the dump and restore ordering in advance of any data integrity checks.

AUTOTABAUDIT may be in one of two states:

- Active: The scheduler is executing TABAUDIT during specified time frames.
- Inactive: The scheduler is not executing TABAUDIT, and execution of TABAUDIT is not scheduled.

For standard TABAUDIT the STATUS command displays the range of tables included and excluded. The ALL option can be used to display all tables included and excluded. For AUTOTABAUDIT the STATUS command displays the current parameters being used by the scheduler. The parameters that are displayed consist of: all included table ranges and their indices, the start time, the start date, the stop time, the stop date, whether or not AUTOTABAUDIT is currently active, and current table. If the ALL option is used, the parameters that are displayed consist of: the all included and excluded tables and their indices, the start time, the start date, the stop time, the stop date, whether or not AUTOTABAUDIT is currently active, and current table.

When executing AUTOTABAUDIT the current information the TABAUDIT session is working with is displayed. The user is asked to confirm the data. If data is missing, the user is told what data is missing. If for some reason a session of TABAUDIT can not obtain the resources it requires, the user is notified that the AUTOTABAUDIT session was terminated, and for what reason.

When QUITing out of a standard TABAUDIT session, the user loses that session's parameters. When QUITing out of an AUTOTABAUDIT session, the user is placed back in the standard TABAUDIT increment, and as long as the automated session is active, the session parameters are preserved.

All data that AUTOTABAUDIT captures is stored in protected store. This includes table statistics (time, date and error counts), and the keys of tuples containing errors.

AUTOTABAUDIT has a couple of restrictions. Sessions of AUTOTABAUDIT and TABAUDIT can be running at the same time, however; only one session can be verifying a specific table at a time. Two sessions of AUTOTABAUDIT can not both be running at any given instant. Furthermore, once an AUTOTABAUDIT session is active, no changes can be made to the session's parameters without first terminating the session.

AUTOTABAUDIT help

The AUTOTABAUDIT increment is used to set up a scheduled session of TABAUDIT. The increment consists of the following subcommands:

INCLUDE EXCLUDE STATUS REPORT CLEAR TIMEFRAME

EXECUTE TERMINATE QUIT HELP INFO

From within the AUTOTABAUDIT increment type:

HELP <subcommand>

for further help on subcommand.

To set up the AUTOTABAUDIT process:

1. Use the INCLUDE command to specify the range of tables to be verified.

2. Use the TIMEFRAME command to specify when the AUTOTABAUDIT process is to verify the specified range of tables.

3. Use the EXECUTE command to activate the AUTOTABAUDIT process

Following is a typical scenario:

```
> INCLUDE ALL
> TIMEFRAME 2:20 1999:11:22 5:30 1999:11:28
> EXECUTE
```

These commands will cause all tables on the DMS to be verified between the specified hours during the specified range of days.

AUTOTABAUDIT examples

The following commands will enter the TABAUDIT increment at the AUTO level, set the time frame within which the session will execute, and specify the range of tables that will be verified.

```
> TABAUDIT
TABAUDIT:

> AUTO
AUTOTABAUDIT:
```

This level of the TABAUDIT CI is used to setup a scheduled session of TABAUDIT. The TIMEFRAME command is used to specify the time frame within which the verification of tables is to be performed.

```
AUTOTABAUDIT:

> TIMEFRAME 1:00 1999:06:30 5:00 1999:07:05
Is the following schedule correct?

AUTOTABAUDIT is to execute from 1:00
to 5:00 between the following dates:

Start date: 1999/06/30
Stop date: 1999/07/05

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

> INCLUDE FROM  LTCINV TO KSETFEAT

> EXECUTE
```

```
|                          AUTOTABAUDIT STATUS                              |
|                                                                           |
|---------------------------------------------------------------------------|
|  Active Timeframe                  |  Executing Timeframe                 |
|---------------------------------------------------------------------------|
|    Start                 Stop      |    Start                 Stop        |
|    Date                  Date      |    Time                  Time        |
|---------------------------------------------------------------------------|
|  1999/06/30           1999/07/05   |    1:00                  5:00        |
+---------------------------------------------------------------------------+
|                                                                           |
              Current time           : 1999/06/23  16:32:05
              AUTOTABAUDIT           : Inactive

              The following tables are INCLUDED

                  From table LTCINV (52)          to table KSETFEAT (420)

              The following tables are EXCLUDED

                  From table DART (0)             to table XLIUMAP (51)
                  From table DNINV (421)          to table CNMDBTST (1115)

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

              AUTOTABAUDIT has been activated.
|                                                                           |
+---------------------------------------------------------------------------+
```

Reporting utility

The report utility is initiated by the CI command, REPORT command in the TABAUDIT directory. This command has five options:

- CHECKED
- NOTCHECKED
- ALL
- INCLUDED
- ERRORS
- <table_name>

The report utility's CHECKED function generates a list of all tables that have been checked, the time and date of the last check, as well as the number of each type of error encountered. At the end of the report, the total number of errors encountered and the amount of time TABAUDIT required to perform the checks are displayed.

The report utility's NOTCHECKED function generates a list of all tables that have not been verified.

If the ALL function is specified, a full report of all tables in table DART is generated indicating whether the table has been checked, the table has been checked and passed verification, or the table has been checked, but an error has been encountered. The number of errors, the error types, and time and date of data verification are indicated. For every table, each failed tuple's key is listed. The output may be directed to a specific device. In addition, at the end of the report, the total number of errors and the total amount of time that TABAUDIT was executing are displayed.

The INCLUDED function generates a report of all tables in a specified includes list. The report details whether or not a table has been checked, and whether or not it passed all checks. If a check failed, the number of each type of error, time and date of the check as well as the failed tuples key are displayed. In addition, at the end of the report the total number of errors encountered in the tables in the includes list, as well as the total amount of time TABAUDIT was executing are displayed.

The ERRORS function is identical to the ALL function except reports are generated only for those tables known to have errors.

If a table name is specified, a report of that table's data integrity is generated. The number of errors, the error types, and time and date of data verification will be indicated. The key of each tuple that failed is displayed.

TABXFR linking

If all data issues have not been resolved and rechecked by TABAUDIT before a data move is attempted, a warning is displayed. The types of warnings are:

- WARNING - ## tables have not been verified by TABAUDIT.
- WARNING - ## errors encountered by TABAUDIT.
- WARNING - ## tables not checked by TABAUDIT within the last 30 days.

Note: ## represents an integer.

Refer to the report utility to determine which tables cause the warnings above.

PRECHECK step

Use the Precheck step "TABAUDIT_VERIFY_TABLES" in the SWUPGRADE READY increment to determine if TABAUDIT has been executed and to identify any tables with recorded errors. The result of this Precheck step provides a brief TABAUDIT status and displays the following messages:

- WARNING - ## tables not checked by TABAUDIT.
- WARNING - ## errors encountered by TABAUDIT.
- WARNING - ## tables not checked by TABAUDIT within the last 30 days.

Note: ## represents an integer.

Refer to the reporting utility to determine which tables cause the above warnings.

16.2.4 AUTOTABAUDIT enhancements (Base08 and higher)

Base08 enhancements to AUTOTABAUDIT provide users with a further automated TABAUDIT process, enhanced scheduling capabilities and timeframe specification, and a flexible human-machine interface.

The enhancements to AUTOTABAUDIT can be broken down as follows:

Enhancement to AUTOTABAUDIT scheduling capabilities

- Allow iterative execution of the automated TABAUDIT during the specified timeframes without human interaction.
- Allow TABAUDIT to start in the middle of a timeframe.
- Make TABAUDIT contention free with image dump and TABXFR, etc.

Enhancements to Human-Machine Interface (HMI)

- Option to exclude tables which are not transferred during the One Night Process (ONP).
- Option to include all previously failed tables.
- Option to include all tables which have been modified since the last audit.
- Capability to specify timeframe with daily, weekly and monthly options
- Capability to modify timeframes through table control.
- Allow users to clear failure information for those tables which will never pass the check.
- Allow all users to enter AUTOTABAUDIT level and check the execution status, but only one user can issue the execute command and terminate an active AUTOTABAUDIT session.

Enhancements to Reporting Capabilities

- Correct the report command to show corrupted tables (i.e. no top, no bottom, holes etc.).
- Enhance the report command to display all tables modified since the last audit.
- Eliminate the generation of a TABAUDIT output file on SFDEV when a non-SFDEV volume is specified in the **EXECUTE** ci command.

Man machine interface (MM)

The following CI commands of the TABAUDIT CI have been modified. (The changes are shown with change bars.)

The INCLUDE command

The include command is used to specify the range of tables to be verified by TABAUDIT. The modified command will allow users to specify all failed / changed tables. The syntax will be:

```
INCLUDE   ALL
          | FROM <table1> [TO <table2>]
          | FAILED
          | CHANGED
          | <table>
```

Examples:

```
> INCLUDE FAILED                  % Include all the failed tables from the last audit
> INCLUDE FROM termdev TO ltcinv  % Include table termdev to ltcinv
> INCLUDE CHANGED                 % Include tables changed since last audit
```

The EXCLUDE command

The exclude command provides users the ability to specify a table that is not to be checked by TABAUDIT. The enhanced command will also provide users the option to disallow all non D/R tables (excluding the dynamic tables) to be checked by TABAUDIT. The syntax of the command will be enhanced as follows:

```
EXCLUDE   <table>
          | NODR
```

Examples:

```
> EXCLUDE linestat   % Exclude table linestat
> EXCLUDE NODR       % Exclude all non dump and restore tables
```

The CLEAR command

The clear command is used to clear the included table list and the scheduled timeframes. The new modified command will also allow users to clear table failure information. The syntax will be:

Manual TABAUDIT: CLEAR INCLUDED
| FAILED <table>

Auto TABAUDIT: CLEAR INCLUDED
| SCHEDULE {ALL | ONE}
| ALL
| FAILED <table>

Examples:

> CLEAR SCHEDULE ALL % Clear all specified timeframes

> CLEAR FAILED linestat % Clear error information for table linestat

The TIMEFRAME command

The timeframe command is used to specify the start time and stop time for automated TABAUDIT processing activities. The modified command will provide users the option to specify the weekday in the timeframes. The syntax will be changed accordingly to:

TIMEFRAME SINGLE <start time> [<start date>] <stop time> [<stop date>]
| DAILY <start time> <stop time>
| WEEKLY <start time> {MON|TUE|WED|THU|FRI|SAT|SUN}
| MONTHLY <start time> <day of month> <stop time>
<day of month>

Note: The duration of the timeframe can not exceed six hours. For monthly option, the 31st day of each month is not allowed.

Examples:

>TIMEFRAME WEEKLY 08:00 MON 10:00 MON

% Run every Monday 8:00 - 10:00 am

>TIMEFRAME WEEKLY 23:00 FRI 02:00 SAT

% Run every week between 23:00 Friday to 2:00 Saturday

>TIMEFRAME DAILY 08:00 10:00

% Run everyday 8:00 - 10:00 am

>TIMEFRAME SINGLE 11:20 12:30

% Start at 11:20 and stop at 12:30 today

```
>TIMEFRAME MONTHLY 07:00 07 09:00 07
```

% Run 7th of every month from 7:00 to 9:00

The REPORT command

The report command is used to generate audit result reports. Users can generate reports for all included tables, all tables with errors, all tables checked, all tables not checked, or all tables in table DART. The new report command will allow users to view the tables changed since the last audit. The modified syntax of the command is:

```
REPORT    NOTCHECKED [<device>] [<filename>]
          | CHECKED [<device>] [<filename>]
          | INCLUDED [<device>]
          | ERRORS [<device>]
          | ALL [<device>]
          | CHANGED [<device>] [<filename>]
          | <table> [<device>] [<filename>]
```

Examples:

```
> REPORT CHANGED              % Report all tables changed since last audit
> REPORT ofcvar vol2 errfile  % Generate errfile for table ofcvar on vol2
> REPORT INCLUDED vol1        % Report on all included tables on vol1
> REPORT ERRORS               % Report on all tables with errors
> REPORT NOTCHECKED           % Report on all tables not checked
> REPORT CHECKED              % Report on all tables checked
```

Some examples of the report are shown as follows:

The report format for the options checked, included, all, errors, and <table>:

```
DART Table Name     Table Control | Checked    Pass  Fail  Start Time                  Elapsed Time
------------------  --------------+--------    ----- ----- ----------                  ------------
0:VERSIONS          New |    124      124      0     1996/07/06 23:31:22.55:         11.567

Total Number of Tables Reported for this report option:    1
Total Number of Passed Tuples for this report option:      124
Total Number of Failed Tuples for this report option:      0
Total Number of Verified Tuples for this report option:    124
Total Elapsed Time to verify the above tables:          :11.567
```

The report format for the option notchecked:

```
DART Table Name     Table Control | Checked    Pass  Fail  Start Time                  Elapsed Time
------------------  --------------+--------    ----- ----- ----------                  ------------

  1:ACTPATCH        New  : Table has not been checked.
  2:VRINV           New  : Table has not been checked.
  3:SOCVAR          New  : Table has not been checked.
  4:SOCFEAT         New  : Table has not been checked.
  5:SOCOPT          New  : Table has not been checked.
------------------  --------------+--------    ----- ----- ----------                  ------------

Total Number of Tables Reported for this report option:          5
Total Number of Passed Tuples for this report option:      0
Total Number of Failed Tuples for this report option:      0
Total Number of Verified Tuples for this report option:    0
Total Elapsed Time to verify the above tables :         :00.000
```

The report format for the option changed:

```
DART Table Name     Table Control      Changed
------------------  -------------      ---------------------
0:VERSIONS          New                Table has been changed
3:SOCVAR            New                Table has been changed
5:SOCOPT            New                Table has been changed
------------------  -------------      ---------------------
Total Number of Tables Reported for this report option:3
```

The AUTO command

The auto command is used to place users in the automated TABAUDIT level. Currently, only one user can be in the AUTOTABAUDIT level.

The syntax of this command is:

```
AUTO
```

The modified command will allow any users to enter the automated TABAUDIT level, display the status of execution and print the report, even if there is a user already at the automated TABAUDIT level. The restriction of allowing only one user to invoke the **EXECUTE** ci command is still in effect. The syntax of the command will not be changed.

Restrictions/limitations

The new CI command Report changed is used to show all the tables that changed since the last audit. However, tables changed due to side effects may not be reported by this command.

The enhanced timeframe command can specify the monthly execution of AUTOTABAUDIT. However, it does not allow to specify the 31st day of a month by the monthly option.

The duration of the timeframe is restricted to maximum six hours.

16.3DARTEDIT command syntax

DARTEDIT — Enters the DARTEDIT increment to enable the following commands.

PRINTDART <mode>

Where <mode> can be:

SHORT — Prints a compact listing of tables in DART. (default)

LONG — Lists tables in DART in a single column format.

Examples:

```
> PRINTDART SHORT
Table DART:
 000 N DART 001 N OKPARMS 002 E DATASIZE 003 N SYSDATA 004 E OCCNAME
 005 E OCCINFO            006 E HNPACONT 007 N OFCSTD  008 N OFCOPT
 009 OFCENG 010 E CRSFMT  011 E CLLI     012 E NNASST  013 E SITE
 014 E CMSHELF...

> PRINTDART LONG
Table DART:
 000 N DART
 001 N OKPARMS
 002 E DATA SIZE
 003 N SYSDATA
 004 ED OCCNAME
 005 E OCCINFO...
```

16.4Delta command syntax

The DELTA command is used to display the difference (delta) of a given table that exists on the active (old) load and inactive (new) load. This command has been enhanced for offices upgrading from CSP10/Base11 (and higher loads).

Offices upgrading from CSP09/Base10 (and lower)

The “old” DELTA command will display any tuples that do not match including those that have been change, added, or deleted.

For example:

```
> DELTA OFCSTD
Table OFCSTD
   Tuples do not match.  Old Count = 83,  New Count = 81.
**ADDED   AUDVLOWGREQ 120

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

**OLD     CPSTACKSIZE 1504
**NEW     CPSTACKSIZE 2000

**ADDED   E911_NPD_TO_NPA_CONV_IN_EFFECT N

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

Offices upgrading from CSP10/Base11 (and higher)

The “new” DELTA command takes into account any requested PARM changes made by the FEATDATA file during the TABXFR process. If the FEATDATA file exists on the new load (inactive side) SFDEV and the DELTA command is used, the following three scenarios will exist:

- If the new load value "matches" the FEATDATA value there will be no output displayed since there is no "difference."

- If the new load value does not match the FEATDATA value then all three values will be displayed: old, new, and FEATDATA.

Example:

```
**OLD        CPSTACKSIZE 1504
**FEATDATA   CPSTACKSIZE 2000
```

```
**NEW        CPSTACKSIZE 1504
```

or

```
**OLD        CPSTACKSIZE 1504
**FEATDATA   CPSTACKSIZE 1504
**NEW        CPSTACKSIZE 2000
```

or

```
**OLD        CPSTACKSIZE 1200
**FEATDATA   CPSTACKSIZE 1504
**NEW        CPSTACKSIZE 2000
```

and

```
**ADDED      E911_NPD_TO_NPA_CONV_IN_EFFECT N
**FEATDATA   E911_NPD_TO_NPA_CONV_IN_EFFECT Y
```

- If there is no FEATDATA value then the old and new values will be displayed if there is a "difference."

Example:

```
**OLD        CPSTACKSIZE 1504
**NEW        CPSTACKSIZE 2000
```

and

```
**ADDED      E911_NPD_TO_NPA_CONV_IN_EFFECT N
```

Note: The FEATDATA file is used by the DELTA command automatically if it exists on the inactive SFDEV. This occurs for every invocation of DELTA regardless of the table being compared. This ensures any table with tuples in FEATDATA will be handled appropriately.

Command syntax

DELTA <table> <delta level> <file option>

Where <table> is the name of the table to be checked. For a sub-table use for the table name:

[<table> SUB <subtable>]

<delta level> can be:

COUNT	—	Checks the number of tuples in both tables.
KEYS	—	Does a checksum on the keys of the tuples.
CHECKSUM	—	Does a checksum on the tuples (default).

And <file option> can be:

FILE	—	Sends results to a file on SFDEV called DELTA$REPORT (default).
NOFILE	—	Displays the terminal without creating a file.

On Base11 the following option is available:

NOFEATDATA	—	Displays the differences between the old and new loads disregarding the featdata information.

Note: If the DELTA command is invoked using the COUNT or KEYS delta levels, FEATDATA is not used regardless of inclusion of the NOFEATDATA option.

OLDDELTA command

Enhancements to the DELTA command beginning with CSP10/Base11 (and higher) loads make it necessary to use the OLDDELTA command when investigating table differences after an office has SWACTed to the new load but before SYNCing the processors. The OLDDELTA command is only valid on CSP10/Base11 (and higher) loads. Use this command to display table differences between the new load and CSP09/Base10 (and lower) loads. Do not use the "new" DELTA command for this purpose since it will not recognize the old load table(s).

The syntax is similar to the DELTA command above.

Note: NOFEATDATA is not an option.

OLDDELTA <table> <delta level> <file option>

16.5TABXFR summary

In BCS35 and higher the TABXFR increment is used to dump and restore tables. This is also known as the "data transfer."

16.5.1 Interrupt TABXFR procedure

Procedure 1
Interrupt TABXFR

During the data transfer the user can stop the TABXFR process two different ways: HALT is to be used most of the time; whereas, HALT NOW can be used to stop the data transfer of a long table.

Note: For the ACTREST platform the following commands are the same, except on the *active* side.

1 **App/INACT** To *halt* TABXFR, on the inactive terminal enter:

```
Mate > HALT                                    {must be in TABXFR increment}
```
TABXFR process will halt after the current table is completely moved. This will not interrupt tables in the process of being moved.

---

2 To *stop* TABXFR during the data transfer of a long table, on the inactive terminal type:

```
Mate> HALT NOW                                 {in TABXFR}
```
TABXFR process will halt immediately, even in the middle of the table.

---

3 To *restart* the data transfer use the STARTXFR command. This starts from the last table successfully completed.

To restart TABXFR, on the inactive terminal enter:

```
Mate> STARTXFR                                 {still in TABXFR}
```

---

4 **ACT** You may, instead, ABORT (stop and reschedule) the application by typing on the ACTIVE side:

```
> BCSUPDATE;ABORT_PRESWACT
```
Resets DUMP_RESTORE_IN_PROGRESS bool in OFCSTD to "N"

```
> TABXFR;CANCEL
```
Enables Patcher/PRSM and turns on AUTODUMP and AUTOPATCH

```
> QUIT ALL
```

16.5.2 TABXFR syntax

TABXFR — Enters the TABXFR increment to enable the following commands.

TABXFR subcommands are as follows:

SETUP <options> — Set up and initialize the type of platform used to perform the data transfer.

Where <options> can be:

STANDARD — Standard split switch application.

DUMPONLY — Setup to perform the dump part of the dump and restore. This is for dumping data to tape.

ACTREST — Perform the restore part of the dump and restore (data transfer). This restores data from tape to the active side (i.e. restore to split cm mode).

THIRDPRO — Third processor-assisted data transfer.

STOPIF — Sets the number of failures allowed for a table. If this threshold is reached then the data transfer stops at the end of the table. (Range is 0 to 4294967296.)

LIMIT — Sets the number of failures allowed for a table. If this threshold is reached then the data transfer stops (whether the table has completed or not). (Range is 0 to 4294967296.)

STATUS — Displays information about the setup and status of the data transfer.

STARTXFR — Starts the data transfer process. It starts after the last completed table or at the beginning if no tables have been completed.

XFRONLY <table> — Performs a data transfer on the specified table only.

XFRFROM <table_name> — Starts a data transfer from the specified table.

CAUTION

XFRFROM places TABXFR control into a more manual state.

Use of the command may cause automatic processes to be bypassed, effecting transfer accuracy.

Using XFRFROM

- If XFRFROM is to be used, for whatever reason, it must be used through the entire TABXFR process.

  Transfer errors and logs can result if STARTXFR and XFRFROM are used interchangeably.

- XFRFROM must be used with the data found in Table DART—after TABXFR has returned the process message:

  "Table DART is now sorted"

  Table DART, after sorting, has each table associated with a number. <DART_number> <status> <table_name>

  For example: 0023 E OFCENG

  These numbers represent the order TABXFR will transfer all the tables. When using XFRFROM, the Applicator is responsible to follow this order.

  ****

  Note:
  XFRFROM must be used *only with non-recursive tables!* XFRFROM will skip tables if used on recursive tables.

  Recursive tables are identified by the following message text:

  "Table is recursive. Verify that any <table_name> data failures apply when table is run again later."

  ****

- An errored non-recursive table may call many recursive tables before STOPIF can halt the transfer process.
- The non-recursive table logged as attempting transfer immediately before the recursive table(s) is the table which called them.
- As non-recursive tables reach STOPIF and are repaired, note the DART number of the table to be repaired. The table with the next higher DART_number is the table to be used with XFRFROM, once the errored table has been acceptably transferred.

DUMP — Performs just the dump portion of the data transfer. (Only available after issuing the SETUP DUMPONLY command.)

RMOUNT — Mounts the device to be used for the active restore.

RDEMOUNT — Demounts the device being used for the active restore.

RCOPY — Copies a file from the restore device to SFDEV.

DATASYNC — Manipulates the Data Synchronization. (Only available after issuing the SETUP THIRDPRO command.)

HALT — Stops the data transfer after the current table is completed.

HALT NOW — Causes the data transfer to halt immediately, after the current tuple.

CLEAR — Clears the specified table. This only works with tables that have a transfer type of PHYSICAL in table DART.

STOPXFR <stop_options>

Where <stop_options> can be:

BEFORE <table> — Stops TABXFR before given table.

AFTER <table> — Stops TABXFR after given table.

CLEAR BEFORE <table> — Clears the stop before given table.

CLEAR AFTER <table>	—	Clear the stop after given table.
QUERY	—	Lists all STOPs.
CANCEL	—	Cancels the data transfer. Entered on active side after any type of ABORT. Turns on AUTODUMP and AUTOPATCH.
REPORT	—	Generates a final data transfer report. This will include a table exception report and (with BCS36 and lower) an NTX package delta.
XREPORT	—	Creates a table exception report only.
NTXDELTA	—	Performs a delta of the NTX packages on the old and new loads (with BCS36 and lower).
QUIT	—	EXIT the TABXFR increment.

16.6 SWUPGRADE summary

The SWUPGRADE increment includes several platforms and the end user has access to only one platform at a time. Each platform enables various commands used for the software upgrade process and automates the bulk of the work involved in applying new PCL software on a DMS office.

The primary platforms of the SWUPGRADE increment are:

CM — Command interface into the CM platform used to perform the AutoONP (available on CSP06 and higher).

PM — Command interface into the PM platform used to perform automated PM upgrades (available on CSP07 and higher).

READY — Command interface into the READY platform used to perform Pre-Application checks (available on CSP08 and higher).

CMMOCK — Command interface into the CMMOCK platform used to perform Customer Applied Mock ONPs (available on CSP11 and higher).

XAC — Command interface into the XAC platform used to perform the AutoONP on XA-Core provisioned offices (available on CSP12 and higher).

16.6.1 SWUPGRADE increment

The SWUPGRADE increment is used to perform an automated Software Upgrade of a DMS switch. The SWUPGRADE CI-commands described in this section are valid for the CM/SLM and XA-Core upgrade targets only. The other SWUPGRADE targets (such as PM) are available with different subsets of commands.

The increment consists of the following subcommands:

CANCEL	CLEAR	DISPLAY	EXIT	HELP
INSERT	OVERRIDE	PAUSE	PROMPTING	QUIT
REMOVE	RESET	RESUME	RUNSTEP	SET
START	STATUS	SWUPGRADE	XFRFROM	XFRONLY

Note: INSERT and RUNSTEP become available only after START.

CANCEL command

Cancels a platform session. The CANCEL command reverts all SWUPGRADE steps and returns the switch to its original state. Also used to switch from one SWUPGRADE platform to another, for example from READY back to PM or CM.

CAUTION

This command will cancel all work done by SWUPGRADE so far.

Once canceled SWUPGRADE has to be re-started. Use the PAUSE command for halting the SWUPGRADE temporarily.

NO PARAMETERS.

CLEAR command

Clears (removes all tuples from) the specified table on the INACTIVE side. This only works with tables which have a transfer type of PHYSICAL in table DART.

The parameter is:

<table name> - The name of the table to be cleared.

DISPLAY/DISP command

Displays (on the trace device) logs, pauses, steps, or variables as specified.

The options are:

LOGS [ACT or INACT] — Displays the counts of the logs specified in the variable (defined during the setup phase), for the active or inactive CM. (The default is: INACT)

(CSP10->)

LOG <log name> <n> [ACT or INACT] — Displays the content for n most recent records in specified log, either for the active or inactive (The default is: INACT).

PAUSES — Displays all pauses in the active step list.

STEPS — Displays all steps and their associated status.

(CSP09->)

VAR ALL	— Displays all variables and their corresponding values. If no value is allocated, a blank is displayed.
VAR <var name>	— Displays the value of a variable. If no value is allocated, a blanks is displayed.

(CSP06-08)

VARS	— Displays all variables and their corresponding values. If no value is allocated, a blank is displayed.

EXIT command

Halts the setup step currently executing. Upon issuing the START command again, the user is prompted for the last variable requested before the EXIT was issued.

Note: This command is valid ONLY when a setup step is executing.

NO PARAMETERS.

HELP command

Displays information on the SWUPGRADE commands, the steps, the variables, or the SWUPGRADE increment.

The options are:

<swupgrade command>	— Displays a brief description and the syntax of that command.
STEP <step>	— Displays a brief description of the behavior of that step.
VAR <variable>	— Displays a brief description and the current value of that variable.
(no parameters)	— Displays a brief description of the SWUPGRADE increment and lists the available CI commands.

INSERT command

Inserts a new step or copies an existing step into another location in the step list.

The parameters are:

<new step>	— New step name.
BEFORE or AFTER	— Inserts before or after the reference.

STEP or TABLE — Inserts relatively to a step or a table.

<old step> or <table> — Existing reference step or table name.

ACT or INACT — CM side on which the new step is executed.

Note: CI commands for a new step are prompted for on successive lines and terminated by a double carriage return.

OVERRIDE/OVE command

Overrides the execution of a single step or a subset of steps.

The options are:

UPTO <step> — Overrides from the current step up to the specified step.

<step> — Overrides a single step.

Note: (CSP10) If the specified step is found to be a BCSUPDATE step, a message will direct the user to access BCSUPDATE to access the step.

PAUSE command

Halts the execution of SWUPGRADE until the RESUME command is issued. If no parameters are specified the execution is paused immediately. However, it is possible to delay the pause until later.

The options are:

BEFORE STEP <step name> — Pauses before the given step.

AFTER STEP <step name> — Pauses after the given step.

BEFORE TABLE <table name> — Pauses before the given table.

AFTER TABLE <table name> — Pauses after the given table.

NOW — Pauses the table transfer immediately.

(no parameters) — Pauses as soon as possible.

PROMPTING command

Turns the prompting mode ON or OFF.

The options are:

ON — Turns the prompting mode on.

OFF — Turns the prompting mode off and resumes the execution in the automatic mode.

QUIT command

Quit from the SWUPGRADE level and return to the last increment entered before going into SWUPGRADE.

NO PARAMETERS.

REMOVE command

Removes user-inserted steps and pauses from the active step list.

The options are:

PAUSE {BEFORE,AFTER} STEP <step name>
— Removes a step pause.

PAUSE {BEFORE,AFTER} TABLE <table name>
— Removes a table pause.

STEP <step name> — Removes a single step.

PAUSES — Removes all pauses.

STEPS — Removes all inserted steps.

ALL — All inserted pauses and steps.

RESET command

Resets a single step or multiple steps, i.e. sets the status to NEEDED, so the step(s) can be re-executed.

The options are:

ALL — Resets all the steps, including the PRESWACT steps.

FROM <step> — Resets the specified step and all the subsequent steps.

<step> — Resets a single step.

Note: (CSP10) If the specified step is found to be a BCSUPDATE step, a message will direct the user to access BCSUPDATE to access the step.

RESUME/CONTINUE/GO command

Resumes the execution of the Software Upgrade after a PAUSE.

Note: This command is disallowed while the Driver is running.

Aliases: CONTINUE and GO.

NO PARAMETERS.

RUNSTEP command

Runs or executes a specific step.

The parameter is:

<step name> — name of the step to execute individually.

SET command

Sets a variable to a given value.

The parameters are:

<variable> — variable to set.

<value> — value to assign to the specified variable.

NOTE: A <value> consisting of more than one word must be enclosed in quotes.

Example 1: SET LOGS 'TRAP SWERR'

Example 2: SET TRACE_DEVICE MAP

START command

Starts the Software Upgrade by executing the steps in the active step list in a sequential fashion starting with the first one.

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

NO PARAMETERS.

STATUS command

Displays SWUPGRADE status information, such as whether the driver is running or not and which step or table is being processed.

NO PARAMETERS.

SWUPGRADE command

The SWUPGRADE increment is used to perform an automated Software Upgrade of a DMS switch. Type HELP for a list of commands available from this CI increment. This command also sets up the specified platform, which must be entered as a parameter the first time the increment is entered.

The parameter is:

<platform> — the type of software delivery upgrade to perform.

XFRFROM command

Begins transferring tables from the specified table.

The parameter is:

<table name> — the table at which to begin transferring.

XFRONLY command

Transfers only the specified table.

The parameter is: <table name> — the individual table to transfer.

16.6.2 SWUPGRADE READY

A new DMS resident tool was introduced in CSP08 called SWUPGRADE READY. The tool is resident to the DMS in the SWUPGRADE Utility and extends the SWUPGRADE increment to include the READY platform. This tool allows the end-user the ability to perform a Pre-Application check on an office and can be used by the Operating Company to determine site readiness for a PCL upgrade. The tool should be used when preparing for a PCL upgrade *from* CSP08 loads and higher.

SWUPGRADE READY commands

The increment consists of the following subcommands:

CANCEL	CLEAR	DISPLAY	EXIT	HELP
INSERT	OVERRIDE	PAUSE	PROMPTING	QUIT
REMOVE	RESET	RESUME	RUNSTEP	SET
START	STATUS	SWUPGRADE	XFRFROM	XFRONLY

Note: INSERT and RUNSTEP become available only after START.

For descriptions of the above subcommands see previous section "SWUPGRADE increment." From within the SWUPGRADE READY increment type:

HELP <swupgrade command>: for further help on a subcommand.
HELP STEP <step_name> : for further help on a step.
HELP VAR < variable name> : for further help on a variable.

SWUPGRADE READY steps

The following is a list of the steps executed by SWUPGRADE READY for offices on CSP13 or higher and a brief description of each.
Note: Some steps do not exist on earlier loads and/or the step names have been changed.

Step Name: SETUP_ENV_VARS

SETUP_ENV_VARS prompts the user for values and sets the environment variables used during the SWUPGRADE READY session. This step causes the process to pause until RESUME, GO or CONTINUE is entered.

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

The environment variables and their default values are:

TRACE_DEVICE	[(no default)]
LOGS	[TRAP SWERR CM CMSM MS]
TO_CSP_CM_LOAD	[(no default)]
PM_VERIFY_FILE	[NONE]
PRINTER	[SINK]
PAUSE_ENABLED	[YES]

Step Name: VERIFY_SN_PECS_INFO

Displays whether the CM and MS PEC CODE and release information are not gating items. See the appropriate PM Software Release Document to check compatibility. This step fails if any CM or MS pec card has a "NO" in the "COMPATIBLE" field.

Step Name: VERIFY_LOGS_ INFO

Displays logs provided in the environment variable LOGS. These logs should be checked and examined periodically for front-end stability. Include or exclude any log(s) the user would like displayed.

Step Name: CHECK_MEMORY

Displays the amount of physical, logical, spare, and available memory in the site. The amounts are displayed in one Meg equivalents.

Step Name: DEVICE_CHECK

Verifies that all devices on the active CPU are in an OK, OFFLINE, or UNEQUIPPED status. These are acceptable states for SWACT. Any devices found in any other state are displayed.

Step Name: TABAUDIT_VERIFY_TABLES

Verifies that TABAUDIT has been executed and tables to be dump and restored have been audited in the last thirty days.

Step Name: DISPLAY_PERIPHERAL_LOAD_NAMES

Displays information regarding peripherals. Information includes: peripheral type, node number and status of units 0 and 1. Also displays load names for each equipped MPC, STC, DCH and DPP.

NOTE: If this step fails, the user should review the output for any PM LOAD NAME of "Unknown".

Step Name: DISPLAY_PRL_LOADS

Provides information stored in the. NT7X05 Peripheral Remote Loader card. The PRL Load and Image information must match the corresponding host PM load(s). This step will fail if the above criteria are not met.

Step Name: CHECK_ISN_PMS

Messages all SOS based ISN PMs to retrieve their current software level and version. This step will pass if all ISN PMs contain the same or higher software level as the TO_CSP_LOAD environment variable.

Step Name: DISPLAY_MS_FW_LOADS

Displays the load in the 9X17 Chain Cards. Used to verify the 9X17 loads listed are correct for the new software load.

Step Name: VERIFY_PM_LOAD_NAMES

Queries all Peripheral Modules with downloadable software and verifies that each PM is loaded with a load specified in the PM_VERIFY_FILE. The PM_VERIFY_FILE is a PM to PM LOAD cross-reference file that list PM loads for a given CSP load.

Step Name: LIUINV_CHECK

Ensures the largest number of a specific LIU type defined in table LIUINV does not exceed the maximum LIU type size that is 512.

Step Name: C7LINK_CHECK

Checks table C7LINK to ensure that the field LINKNAME is datafilled with all MSB7 or LIU7 peripherals but not a mixture of either type peripheral.

Step Name: CHECK_LTCINV

Checks DTCs, in table LTCINV, datafilled for CCS7 (i.e. field OPTATTR equals "CCS7") to ensure XPM load name and processor compatibility.

Step Name: DISPLAY_NOP_USERS

Displays all NOP/MPC users and their status.

Step Name: DISPLAY_DPP_VERSION

Displays DPP hardware and software info and DPP Status.

Step Name: CHECK_LCMINV

Verifies memory on LCM(s) match MEMSIZE field entry in table LCMINV. Also verifies entries in this table have a corresponding LCM which is in-service.

Step Name: READY_STATUS

Used to display the step states and their status.

Step Name: READY_COMPLETE

Reminds the user to quit the SWUPGRADE increment and QUIT from the switch after the READY program is completed.

ONPREADY command

A new Site Readiness feature was introduced in CSP11 to provide the user with a stand-alone command called ONPREADY. The ONPREADY command runs outside of the SWUPGRADE framework and executes all of the SWUPGRADE READY steps sequentially and continuously. The new command allows the SWUPGRADE READY steps to run concurrently with the other platforms provided by SWUPGRADE.

The SWUPGRADE command increment includes several platforms and the end user has access to one platform at a time. For example, if the SWUPGRADE PM platform is in use, the user has to cancel out of this platform in order to execute the SWUPGRADE READY platform. However, the ONPREADY command is always available. This feature allows the user to use the ONPREADY command to execute the same steps as the SWUPGRADE READY command.

Command syntax:

ONPREADY [<Options:>{STATUS, HELP, RESET}]

The STATUS option displays the step status and the times the step was last run. The last column displays the total execution time of the steps.

The HELP option displays information about ONPREADY and the purpose for the environment variables.

The RESET option resets all the step statuses back to needed and resets the time they executed back to 0.

When entered, the ONPREADY command will display the default environment variables and ask the user "Do you wish to use these settings?" A "Yes" response will execute all the SWUPGRADE READY steps that have been bound into ONPREADY. A "No" response causes the ONPREADY CI to prompt the user for any changes. The default value is listed in brackets to the right of the prompt. A nil entry defaults the environment variable to the default entry.

Examples:

```
CI:
 > ONPREADY HELP
 This command executes all SWUPGRADE READY steps.
 It is used to PRECHECK an office prior to a Software
 Upgrade or ONP.
```

```
Environment variables:
----------------------
 LOGS: - include or exclude any log or logs that
 the user would like displayed.

 TO_CSP_LOAD: - allows the user to set which CSP
 load that the site plans for their next software upgrade.

 PM_VERIFY_FILE: - a file name which references a
 file used by step VERIFY_PM_LOAD_NAMES to compare
 peripheral loads in this site. This step verifies
 the peripheral loads do exist in this file.

 PRINTER: - used to redirect the output of this CI
 to another device such as a terminal or printer.

 PAUSE_ENABLED - YES: pause execution on step failures.
                 NO: execute all steps non-stop.

> ONPREADY RESET
> ONPREADY STATUS

Procedure Name                 Status    Start Date/Time
==============                 =======   =================
DISPLAY_PEC_INFO                needed   Time Unavailable
CHECK_LOGS                      needed   Time Unavailable
CHECK_MEMORY                    needed   Time Unavailable
DEVICE_CHECK                    needed   Time Unavailable
DISPLAY_PERIPHERAL_LOAD_NAMES   needed   Time Unavailable
DISPLAY_PRL_LOADS               needed   Time Unavailable
DISPLAY_DEVICE_AND_USER         needed   Time Unavailable
CMIC_LINKS_CHECK                needed   Time Unavailable
TABAUDIT_VERIFY_TABLES          needed   Time Unavailable
LIUINV_CHECK                    needed   Time Unavailable
CHECK_LTCINV                    needed   Time Unavailable
C7LINK_CHECK                    needed   Time Unavailable
DISPLAY_NOP_USERS               needed   Time Unavailable
DISPLAY_DPP_VERSION             needed   Time Unavailable
CHECK_RCCINV                    needed   Time Unavailable
CHECK_LCMINV                    needed   Time Unavailable
VERIFY_PM_LOAD_NAMES            needed   Time Unavailable
DISPLAY_MS_FW_LOADS             needed   Time Unavailable
```

```
CHECK_ISN_PMS                    needed   Time Unavailable

> ONPREADY
The current environment variables are set to the following:

Variable Name             Value
----------------------------------------
LOGS                       [TRAP SWER CM CMSM MS INIT]
TO_CSP_LOAD                [12]
PM_VERIFY_FILE             [NONE]
PRINTER                    [SINK]
PAUSE_ENABLED              [Y]

Do you wish to use these settings?
Please confirm ("YES", "Y", "NO", or "N"):
> N
Enter the value for LOGS [TRAP SWER CM CMSM MS INIT].
> CMSM INIT IOD
Enter the value for TO_CSP_LOAD [0].
> 13
Enter the value for PM_VERIFY_FILE [NONE].
> PRECHECK13$FILE
Enter the value for PRINTER [SINK].
>
Enter the value for PAUSE_ENABLED [YES].
> NO

SETUP COMPLETED.
>
```

Note: After setup all SWUPGRADE READY steps get executed continuously until all steps have completed. A summary list of COMPLETED or FAILED steps is displayed after ONPREADY completes.

16.7 BCSUPDATE summary

The BCSUPDATE increment and commands are described below. This is followed by a "PRESWACT Abort" procedure, which is referenced by the ONP procedures. The SWACT commands are described separately in the final section of this appendix, "CC WarmSWACT summary."

16.7.1 BCSUPDATE increment

The BCSUPDATE increment is used to enable commands for a BCS application. BCSUPDATE increment commands perform the bulk of the work involved in applying new PCL software on a DMS office.

From within the BCSUPDATE increment type:

HELP : for list of all possible commands.
HELP <bcsupdate command>: for further help on a subcommand.

BCSUPDATE commands

The following commands are available within BCSUPDATE:

PRECHECK — Perform a series of pre-application checks (prechecks) used to determine if an office is ready for the software upgrade.
Parms:[<Executes until complete:>{NONSTOP}]

PRESWACT — Perform the BCS application by invoking the application driver. The command may be used repeatedly.

LIMITED_PRESWACT — Performs necessary checks to prepare office for a Non-BCS upgrade RESTARTSWACT. This command should not be used to prepare for a BCS upgrade RESTARTSWACT.

STATUS — Display status of PRECHECK, PRESWACT, LIMITED_PRESWACT, or POSTSWACT. Displays what critical steps have been completed and those still needed.
Parms: <Which process:> {PRESWACT, POSTSWACT, PRECHECK}

RESET — Resets status of all procedures to NEEDED so BCSUPDATE can be re-executed.

SWCT — Enable CC WarmSWACT commands. In BCS31 this command became available only as an increment of BCSUPDATE.

SWACTCI — Enter the SWACTCI Command Level. Same as SWCT (this changed to SWACTCI in BCS33).

Note: Commands for switching activity are available as increments of the SWACTCI/SWCT level. Refer to the section, "CC WarmSWACT summary" for details of SWACT commands.

POSTSWACT — Recovery functions following SWACT.

OVERRIDE — Override the execution of a procedure. Set a failed PRECHECK, PRESWACT or POSTSWACT procedure to COMPLETED. This should be used with caution. Only those steps that have been investigated and pose no threat to the current application should be set completed by this command.
Parms: <Procedure name:> STRING

DATADUMP — Displays office information (implemented in BCS31).

RUNSTEP — Execute individual PRECHECK or PRESWACT steps. Starting in BCS34 this also works for POSTSWACT steps. CAUTION! Also see next command.
Parms: <Procedure name:> STRING

ABORT_PRESWACT — (BCS35 and higher) Runs recovery steps to abort PRESWACT or to recover after a RUNSTEP is used to run one or more of the PRESWACT steps. Both PRESWACT and RUNSTEP will set the DUMP_RESTORE_IN_PROGRESS bool in OFCSTD to "Y." After a RUNSTEP (if done out-of-process) the Applicator must run ABORT_PRESWACT to reset the bool to "N".

DEVICE — Display device and user information.

LOGCHECK — Display traps and various logs.

PMAUDIT — Creates a file containing PM load names and patches. If a file name is not specified, PMAUDIT$FILE will be used.
Parms: [<file name> STRING]

ONPSTATS — Display time values for ONP Steps.
Parms:

<FUNCTION> {PRINT, SAVE <FILENAME> STRING
[<DEVICE> DEVICE name]}

TABLE_COUNTS — Display various tables and their tuple counts.

DISPLAY_SLM — Determine and display the type of SLM devices in an office, if any.

PAUSE — Command to manipulate the PRESWACT and POSTSWACT processes by halting the execution of the process BEFORE/AFTER a step.
Parms:

<Pause> {BEFORE <Process> {PRESWACT <Step> STRING,
POSTSWACT <Step> STRING},
AFTER <Process> {PRESWACT <Step> STRING,
POSTSWACT <Step> STRING}
CLEAR <Pause> {BEFORE <Process> {PRESWACT <Step> STRING,
POSTSWACT <Step> STRING},
AFTER <Process> {PRESWACT <Step> STRING,
POSTSWACT <Step> STRING}},
QUERY <Process> {PRESWACT, POSTSWACT}}

QUIT — Exit the BCSUPDATE increment.

16.7.2 PRESWACT Abort procedure

App It may be necessary to STOP (and reschedule) the application after TABXFR or PRESWACT has been implemented, but before the switch of activity (SWACT). If this is the case, perform the following steps to restore the active side to its original state.

1 **ACT** For BCS35 and higher (all PCLs) type only this command:

```
> BCSUPDATE;ABORT_PRESWACT

> BCSUPDATE;RUNSTEP CLEANUP_VR_MATE_DATA

> Y

> QUIT

> TABXFR;CANCEL

> Y

> QUIT

> BCSUPDATE;STATUS PRESWACT
```

If all steps are not set to "needed" then

```
> RESET

> Y

> QUIT

> TABLE OFCSTD;RWOK ON;OVE;VER OFF;POS
DUMP_RESTORE_IN_PROGRESS;CHA 2 N

> QUIT

> MATELINK BSY

> MAPCI;MTC;CM;SYNC or MAPCI;MTC;XAC UNSPLIT

> JFSTART
```

16.8CC WarmSWACT summary

SWitch of ACTivity (SWACT) is a generic term referring to a process by which activity is switched between two processors.

"CM SWACT" is the switch of activity between the processors in the Computing Module (CM) of the DMS-Core.

"CC WarmSWACT" refers to a controlled SWACT process where a sequence of steps is executed to ensure minimal degradation call processing.

Note: Only "simple" 2-port and echo calls that are in a stable talking state (that is, not in a transition state such as dialing) will survive a CC WarmSWACT. Survival means that the call is kept up until the next signaling message is received (hopefully, for example, a terminate message, but on any other message as well, such as an attempt to use the conference feature). See Appendix B for an optional procedure for testing call survivability over a CC WarmSWACT.

NORESTARTSWACT (NRS) is a type of CM SWACT that avoids a restart of the CM. The service interruption for this option is less than 30 seconds. The use of NORESTARTSWACT is explained below under "CC WarmSWACT commands."

The three parts in this section are divided as follows:

1. Explanation of CC WarmSWACT and its major steps
2. Explanation of CC WarmSWACT commands
3. Explanation of CC WarmSWACT logs

16.8.1 CC WarmSWACT steps

CC WarmSWACT is a method by which a new software load can be efficiently activated in a DMS-100F switch. It ensures a controlled activity switch while minimizing degradation of service to the subscriber. To achieve this goal the process performs the following steps.

- Precheck to ensure the environment is right for the intent (e.g., switch is out of sync and inactive side is not jammed)
- Establish communication between the two CPUs
- Obtain required semi-dynamic data from the active CPU and transfer it to the inactive CPU
- Setup and allocate required resources to transfer dynamic data (e.g., originating and terminating party of calls being supported)

- Stop call processing. Freeze everything so nothing can change while activity is being switched
- Obtain and transfer all dynamic data
- SWitch ACTivity from the active CPU to the inactive CPU
- Perform additional checking to ensure sanity of new CPU and initiate recovery
- Insert the dynamic data that was transferred before the SWACT
- Resume call processing
- Cleanup and deallocate any resources used to execute the CC Warm-SWACT

16.8.2 CC WarmSWACT commands

The commands required to perform/monitor/report a CC WarmSWACT are as follows.

SWCT (BCS32 or lower)—directory where all commands for CC Warm-SWACT may be found. User must be in the BCSUPDATE directory to go to this directory in BCS31 and BCS32, i.e., BCSUPDATE;SWCT

System Response: Prompt changes to SWCT:

SWACTCI (BCS33 and higher)—same as SWCT but was changed in BCS33 to distinguish CC WarmSWACT from XPM SWACT.

System Response: Prompt changes to SWACTCI.

QUIT—gracefully exits SWCT/SWACTCI CI increment.

System Response: Prompt returns to previous state.

FORCESWCT/FORCESWACT—displays, enables or disables the ability for the newly active CPU to switch activity back to the previously active CPU if an abnormal condition exists (more than 10% of PMs on the newly active side are not OK). FORCESWCT for BCS32 or lower. FORCESWACT for BCS33 and higher.

Optional parameter:

- no parameter queries the status of FORCESWCT/FORCESWACT (IN EFFECT or NOT IN EFFECT is displayed).
- ON forces activity to stay on the newly active CPU even if an abnormal condition exists. This is the default setting.

- OFF allows activity to switch back if the abnormal condition exists. This should not be used unless the user definitely does not want to stay on the newly active CPU to correct problems, etc.

System Response: Log is produced when ON/OFF optional parameter is used (SWCT104).

LOADEXECS—displays, enables or disables the exec loading process which occurs after a CC WarmSWACT to download new execs to the PMs for call processing. This command has been obsoleted in BCS35 or greater.

Optional parameter:

- no parameter queries the status of LOADEXECS (ENABLED or DISABLED is displayed).
- ON enables exec loading. This is the default setting and is required when performing a CC WarmSWACT between different BCSs, i.e., BCSn -> BCSn+, BCSn+ -> BCSn.
- OFF disables exec loading after CC WarmSWACT. This should not be used unless the user definitely understands the implications of not downloading execs to PMs after a CC WarmSWACT.

System Response: Log is produced when ON/OFF optional parameter is used (SWCT104).

DISP/DISPLAY—displays information regarding CC WarmSWACT. DISP in BCS30 or lower. DISPLAY in BCS31 and higher.

Optional parameter:

- BADNODES will display all hardware devices whose status is NOT OK or OFFLINE on the active side of the switch.
- MISMATCH displays mismatches found from comparing device statuses between the active side and the inactive side of the switch.
- SWCTTIME (SWACTTIME in BCS35 and higher) displays all times collected for CC WarmSWACT (SWCT101 time, EXECTIME, RECVTIME).
- ALARM has been obsoleted in BCS33 and beyond.

System Response: Information is displayed to terminal.

QUERYSWACT—this command checks the office configuration to determine which CC WarmSWACT command (RESTARTSWACT or NORESTARTSWACT) should be used.

System Response: If the office supports NORESTARTSWACT the response is as follows:

"NORESTARTSWACT is recommended for initiating a CC WarmSWACT. Further checking will be done when SWACT is invoked."

Otherwise, the following message is displayed:

"RESTARTSWACT must be used for initiating a CC WarmSWACT."

NORESTARTSWACT—this command executes the CC WarmSWACT process and performs all of the necessary prechecks to activate the CC WarmSWACT. PRESWACT steps of BCSUPDATE must all be executed successfully before a NORESTARTSWACT will be allowed. This command is valid only in BCS36 and greater.

Optional parameter:

- NOMATCH will disable the matching of device statuses between the active and inactive sides of the switch. WARNING: Do not use this option unless there is no other choice. Device statuses after the CC WarmSWACT are not guaranteed hence several devices may be out of service after the CC WarmSWACT.

System Response: The steps being executed as part of the CC WarmSWACT will be displayed to the terminal and logs will be generated (SWCT102). SWACT will occur. If a NORESTARTSWACT cannot be executed in this office the following message will be displayed:

"RESTARTSWACT should be used instead of NORESTARTSWACT. NORESTARTSWACT command aborted."

RESTARTSWCT/RESTARTSWACT—this command executes the CC WarmSWACT process and performs all of the necessary prechecks to activate the CC WarmSWACT. In BCS31 and greater the PRESWACT steps of BCSUPDATE must all be executed successfully before a RESTARTSWCT/RESTARTSWACT will be allowed. RESTARTSWCT in BCS32 and lower. RESTARTSWACT in BCS33 and higher.

Optional parameter:

- NOMATCH will disable the matching of device statuses between the active and inactive sides of the switch. WARNING: Do not use this option unless there is no other choice. Device statuses after the CC WarmSWACT are not guaranteed hence several devices may be out of service after the CC WarmSWACT.

System Response: The steps being executed as part of the CC WarmSWACT will be displayed to the terminal and logs will be generated (SWCT102). SWACT will occur followed by a COLD restart. If a NORESTARTSWACT is supported by this office the following message will be displayed which requires a YES/NO response from the user:

"NORESTARTSWACT should be used instead of RESTARTSWACT.
Do you wish to continue with RESTARTSWACT?"

ABORTSWCT/ABORTSWACT—this command executes the CC WarmSWACT process and performs all of the necessary prechecks to activate the CC WarmSWACT. In BCS31 and lower the RESTARTSWCT command should be used in place of this command. This command does not require PRESWACT to be performed before execution. This command should only be used when aborting a BCS application. ABORTSWCT in BCS32 and lower. ABORTSWACT in BCS33 and higher.

Optional parameter:

- NOMATCH will disable the matching of device statuses between the active and inactive sides of the switch. WARNING: Do not use this option unless there is no other choice. Device statuses after the CC WarmSWACT are not guaranteed hence several devices may be out of service after the CC WarmSWACT.
- NOCHECK will override the requirement for all devices to be OK before a CC WarmSWACT. Therefore a device can be CBSY for instance and the CC WarmSWACT will still be allowed. Available in BCS34 and higher. WARNING: Use this option only as a last choice after exploring other choices.

System Response: The steps being executed as part of the CC WarmSWACT will be displayed to the terminal and logs will be generated (SWCT102). SWACT will occur followed by COLD restart.

STATUSCHECK—this command matches statuses for devices between the active and inactive side of the switch. It verifies that the STATUSUPDATE step executed in PRESWACT was successful.

System Response: A SWCT109 log is generated for each type of device that has passed the STATUSCHECK process. A SWCT110 log is generated for each type of device that has failed the STATUSCHECK process. Each device of the failed type that mismatches is displayed to the terminal.

MODCHECK—this command checks for necessary CC WarmSWACT application modules on the inactive side and outputs any modules which are missing. Missing modules will cause the CC WarmSWACT to fail and therefore must be investigated or overridden via the OVERRIDE option to MODCHECK. This command is valid in BCS32 and beyond.

Optional parameter:

- no parameter invokes checking for all CC WarmSWACT application modules.
- OVERRIDE will disable the checking for requested missing modules and hence disable the functions performed by those CC WarmSWACT applications.
- RESET will enable the checking for requested missing modules and hence enable the functions performed by those CC WarmSWACT applications.

System Response: SWCT113 log will be output if MODCHECK is successful. SWCT114 log will be output if MODCHECK fails. SWCT115 log will be for every missing module. SWCT116 log will be output for every module for which the OVERRIDE/RESET options are used.

RESUMEPM—should not be used. This is a very dangerous command and should only be used by qualified personnel.

System Response: Some PMs may go SYSB. Do not use this command.

RESTOREXECS—this command will load execs to any or all PM types.

CAUTION
This command should only be used in emergency situations by qualified personnel.

Non optional parameter:

- <PM_TYPE> {TM, LM, DCM, RLM, XPM, ALL}

System Response: PM type(s) chosen will have execs loaded. No response to terminal.

16.8.3 CC SWACT logs

SWCT101—Information log only. This log does not indicate a service affecting problem. Displays the WarmSWACT time.

SWCT102—Information log only. This log does not indicate a service affecting problem. Indicates which CC WarmSWACT step successfully completed.

SWCT103—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates which CC WarmSWACT step failed.

SWCT104—Information log only. This log does not indicate a service affecting problem. Indicates a condition or state of the CC WarmSWACT process.

SWCT105—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates why a CC WarmSWACT step failed.

SWCT106—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates the underlying problem of why a CC WarmSWACT step failed.

SWCT107—Information log only. This log does not indicate a service affecting problem. Indicates that exec loading occurred successfully to the reported PM type. This log has been obsoleted in BCS35 and beyond.

SWCT108—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates that exec loading failed to the reported PM type. This log has been obsoleted in BCS35 and beyond.

SWCT109—Information log only. This log does not indicate a service affecting problem. Indicates that a STATUSCHECK application passed.

SWCT110—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates that a STATUSCHECK application failed.

SWCT111—Information log only. This log does not indicate a service affecting problem. Indicates that the PRELOAD_EXECS step of PRESWACT completed successfully.

SWCT112—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates that PRELOAD_EXECS failed for an XPM, one log will be reported for every XPM that failed.

SWCT113—Information log only. This log does not indicate a service affecting problem. Indicates that the MODCHECK command passed successfully.

SWCT114—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates that the MODCHECK command failed.

SWCT115—Trouble log. This log indicates a service affecting problem and must be investigated in order for the CC WarmSWACT to complete successfully. Indicates which modules are missing on the inactive side according to the MODCHECK command, one log will reported for every missing module.

SWCT116—Information log only. This log does not indicate a service affecting problem. Indicates that a module has been OVERRIDDEN/RESET for checking by the MODCHECK command.

SWCT117—Information log only. This log does not indicate a service affecting problem. Displays information about the CC WarmSWACT process.

17 Appendix B: Supplementary Procedures

17.1 PRESWACT DIRP and billing procedures

Where applicable, perform procedures 1-6 when prompted to do so by the SWUPGRADE process step "PRESWACT_DIRP_AND_BILLING" prior to SWACT.

Site and Applicator can work together to prepare the PRIMARY DIRP billing subsystems for the office switch of activity (SWACT):

If the PRIMARY billing is on DPP/BMC perform procedure 1
If the PRIMARY billing is on DISK perform procedure 2
If the PRIMARY billing is on TAPE perform procedure 3
If office is using Automatic File Transfer (AFT) perform procedure 4
For all other DIRP billing preparation perform procedure 5
For Parallel DIRP preparation see procedure 6

Procedure 1 - DPP/BMC PRIMARY billing

If primary billing is on DDP or BMC systems, perform the following. Make note of the following information for reference:

```
> MAPCI NODISP;MTC;IOD
> LISTDEV MTD;DIRP              {data to use when remounting}
> QUERY AMA                     {Note the STANDBY volume}
```

IMPORTANT: *Ask Operating Company personnel if any of the tape devices defined in table DIRPPOOL are poll-able devices (excluding parallel tapes); and if so, then what vendor? The following may apply to not only AMA, but also SMDR or other DIRP subsystems. This step only covers the example for AMA. Do not continue until all tape devices are verified.*

This step does not apply to other vendors' poll-able devices (such as PDU, CGI, ECU, and others).

In a pool of DPP or BMC volumes, field DEVTYPE in table DIRPPOOL should be 'DPP' (not 'TAPE').

This step is not for BMC/TAPE COMBO.

This step does not apply to parallel volumes.

Note: While performing this step, it may be convenient to have other devices mapped up in the display mode.

If DPP perform procedure 1a below.

If BMC perform procedure 1b below.

a. DPP AMA preparation

*For the following commands, <**x**> is the STANDBY volume.*

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT DPPAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Verify the STANDBY volume is mounted before continuing.

```
> ROTATE AMA
> YES
> QUERY AMA
```

Make note of the new STANDBY volume.

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT DPPAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Ensure *both* Active and STANDBY are mounted and IOD alarms (AMA/DPP) are cleared in the MAP level before continuing.

```
> DPP AMA
> IDXMAINT CREATE FILE AMA
> YES
```

Verify in the MAP level that there are no IOD alarms as a result of this step.

```
> QUIT MAPCI
```

b. BMC AMA preparation

Perform this substep only if *both* Active and Standby are BMC (*not* BMC and Tape).

*For the following commands, <**x**> is the STANDBY volume.*

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT BMCAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Verify the STANDBY volume is mounted before continuing.

```
> ROTATE AMA
> YES
> QUERY AMA
```

Make note of the new STANDBY volume.

```
> DMNT AMA T<x>
> YES
> ERASTAPE <x>
> YES
> MOUNT <x> FORMAT BMCAMA
> DEMOUNT T<x>
> MNT AMA T<x>
> YES
> QUERY AMA
```

Ensure *both* Active and STANDBY volumes are mounted.

Verify in the MAP level that there are no IOD alarms as a result of this step.

```
> QUIT MAPCI
```

Procedure 2 - PRIMARY billing on DISK

If primary billing is on a disk perform the following.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY AMA                          {Note the STANDBY volume}
```

ROTATE any active billing subsystem (such as AMA SMDR OCC CDR).

Example:

```
> ROTATE AMA
> YES
> QUERY AMA                                        {to verify rotated}
```

If required by Operating Company policy copy unprocessed DIRP files to back-up tape (using DIRPAUTO or DIRPCOPY commands).

Verify that table DIRPHOLD contains no unprocessed billing files (if DIRPAUTO was used above).

Procedure 3 - PRIMARY billing on TAPE

If primary billing is on a tape perform the following.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY AMA                            {Note the STANDBY volume}
```

ROTATE any active billing subsystem (such as AMA SMDR OCC CDR).

Example:

```
> ROTATE AMA
> YES
> QUERY AMA                                          {to verify rotated}
```

CLOSE the STANDBY file, and DMNT the STANDBY volume.

Example:

```
> CLOSE AMA STDBY 1
> DMNT AMA T1
```

Remove the demounted STANDBY tape from the tape drive, and put up a *new tape* to be used as the next DIRP volume.

Prepare a new STANDBY volume as follows.

> MOUNT <**x**> FORMAT <**volume_id**>
Where <x> is the STANDBY device number, and <volume_id> is the name of the STANDBY volume.

If prompted enter the first filename, or if system response is:
"request aborted. Tape not expired (use ERASTAPE)"
then select an unused or expired tape for formatting.

```
> DEMOUNT T<x>
```

Leave the STANDBY volume at load point and ON LINE. Then, immediately after SWACT it will become the ACTIVE volume of the appropriate subsystem.

Procedure 4 - Automatic File Transfer (AFT)

If office is using AFT determine from Operating Company personnel what AFT sessions are active.

```
> AFT
> QUERYAFT <aft_session>
```
Where <aft_session> is the NETCON id in table RASLAPPL.

STOP any active AFT session. All active AFT sessions must be stopped prior to rotating DIRP subsystems.

```
> STOPAFT <aft_session>          {verify "STOPPED" in status bar}
```

ROTATE any active DIRP subsystem (such as OM OCC CDR).

Example:
```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY <dirp_subsystem>
```
Where <dirp_subsystem> can be OM, OCC, CDR, and others.

```
> ROTATE <dirp_subsystem>
> YES
> QUERY <dirp_subsystem>                    {to verify rotated}
```

Verify the rotated files completed transfer and each AFT session is IDLE.

```
> AFT
> QUERYAFT <aft_session>              {verify "IDLE" in status bar}
> QUIT
```

Note: Perform additional DIRP and billing steps if required.

Procedure 5 - DIRP DISK preparation

This step does not apply to DIRP devices already addressed above (that is, primary billing on DPP/BMC, DISK, or TAPE).

ROTATE any other DIRP DISK volumes before SWACT.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY <dirp_subsystem>
```

Where <dirp_subsystem> can be DLOG, SMDR, OM, JF, and others.

```
> ROTATE <dirp_subsystem>
```

Procedure 6 - Parallel DIRP preparation

App Applicator should make a note of how the PARALLEL devices are allocated in table DIRPPOOL.

Site The Operating Company is responsible to recover parallel AMA as required after SWACT. Parallel DDU should come up automatically, parallel tape will have to be remounted, preferably with new tape.

Note: DIRP does not support parallel AMA recording on a DPP or BMC volume. Table control prohibits the filling of devtype DPP in a parallel pool.

CAUTION

Recently recorded parallel data may be overwritten.

Site should copy the parallel files to tape to prevent loss of parallel data if this is the Operating Company policy.

- If a single parallel volume is in use, information on the volume will be lost over SWACT.
- If more than one parallel volume is allocated, DIRP will start recording after SWACT on the volume with the oldest timestamp. Hence, information on that volume will be lost over SWACT.

17.2 Recover DIRP and billing procedure

Where applicable, perform this procedure when prompted to do so by the SWUPGRADE process step "RECOVER_DIRP_AND_BILLING" after SWACT.

Site and App/ACT POSTSWACT recovers PRIMARY (regular) billing subsystems such as AMA, SMDR, OCC, CDR and AFT. Confirm that affected DIRP subsystems were successfully activated. If billing is on tape (MTD) manually assign the STANDBY volumes. Then site may manually bring up PARALLEL subsystem(s) as required.

Procedure 1 - Recover DIRP and billing

1
```
> MAPCI;MTC;IOD;DIRP
> QUERY AMA ALL                    {note which volume is ACTIVE}
```

---

2 If DPP or BMC, call downstream processing to POLL billing data. (Polling is optional. It may also be done after test calls are completed.)

---

3 Remount TAPEX volumes using the DIRP MNT command.

---

4 As needed, assign STANDBY billing devices for TAPE and DPP/BMC.

***Note*:** For details refer to the "PRESWACT DIRP and billing" section.

---

5 If using SMDR, rotate the SMDR volume from the DIRP level of the MAP (this will ensure the RECORD HEADER is correct). If SMDR recording is on BMC and no standby volume is available, then mount a temporary STDBY TAPE volume. Rotate the BMC port OUT and back IN. Remove the tape volume after this is done.

Note: Since some SMDR recording applications on BMC collect SMDR records based on the customer group ID only, this ensures that any changes to the customer group IDs are passed to the BMC upon rotate (and the RECORD HEADER is correct).

---

6 If using AFT, ensure process has started and all active AFT sessions are in SENDING state. If needed, start AFT sessions manually.

```
> AFT
> STARTAFT <aft_session>
> QUERYAFT <aft_session>           {verify "SENDING" in status bar}
> QUIT
```

—continued—

Procedure 1
Recover DIRP and Billing (continued)

7 As needed, bring up PARALLEL devices.

8 Verify all regular and parallel devices are working for all available billing subsystems in DIRP.

17.3 Execute manual TABAUDIT procedure

Procedure 1 - Steps to execute manual TABAUDIT

The following procedure is one method of verifying all office tables before the ONP. Completing these steps will manually activate a TABAUDIT session from the device on which the commands are entered. A manual TABAUDIT session will occupy the terminal device until completed. The total time to complete a TABAUDIT session will vary depending on the number and size of all office tables.

1 **Site/ACT** Set-up and execute a manual TABAUDIT.

a. `> TABAUDIT`
`TABAUDIT:`
Enters the TABAUDIT increment.

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

c. Start the TABAUDIT session.

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

TABAUDIT now executes the various data integrity checks on each tuple of every table in the office.

****** TERMINATION—To stop an active TABAUDIT session (not automated) type *<break> hx*.
This quits the TABAUDIT increment which will terminate the session and clear all settings made for this *session.*

—continued—

Procedure 1
Steps to execute manual TABAUDIT (continued)

CAUTION
Do not attempt to view the Summary File until the TABAUDIT has completed.
Doing so will terminate the TABAUDIT session.

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

Example of TABAUDIT execute

```
TABAUDIT:
> EXECUTE

------------------------------------------------------
|                                                    |
|                 TABAUDIT STATUS                    |
|                                                    |
------------------------------------------------------

The following tables are included:

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

The following tables are excluded:

   No tables have been excluded.

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

> yes
Creating TABAUDIT summaryfile: SUMMARY$MAP on SFDEV.
Starting DMS data verification ...
   .
   .
Data verification is completed.
```

—continued—

Procedure 1
Steps to execute manual TABAUDIT (continued)

2 After the TABAUDIT has finished running, obtain an error REPORT to see the results of the testing.

Note: Several useful options are available with the REPORT command. Type HELP REPORT to see the options.

```
TABAUDIT:
> REPORT ERRORS
```

The REPORT ERRORS command displays tuples that are in question. To see detailed information on why a tuple has failed, position on the table tuple in question and issue a CHECK command. This will display the verify proc messages that fail.

---

3 Review and correct all tables with recorded errors. Then execute TABAUDIT again on any table that was changed or corrected.

```
TABAUDIT:
> INCLUDE <table_name>

TABAUDIT:
> EXECUTE

TABAUDIT:
> REPORT <table_name>
```

Nortel Networks requires that data integrity checks using TABAUDIT be made a regular and ongoing part of normal maintenance procedures. More details on how TABAUDIT operates is included in* Appendix A *(see section "Using TABAUDIT").

17.4PM conversion procedure

Procedure 1 - Converting one PM to another

During a software application it is possible to change the key field LTCNAME from an LGC to an LTC. This would be done during the data transfer to eliminate having to delete and re-add the peripheral. The Operating Company is responsible for changing the FRAMENAME, LOADNAME, and EXEC LINEUP information to meet their needs. This procedure should be used to accomplish this.

Do the following after the CC SWACT when you have converted one PM type to another PM type (for example, an LGC to LTC conversion).

1	**Site/ACT** Busy the inactive unit of the peripheral to be reloaded.
2	Make appropriate changes in table LTCINV for the FRAMENAME, LOADNAME, and EXECS for the peripheral being modified.
3	Load, patch, and rts unit x nodatasync on the inactive unit.
4	Perform a cold SWACT to the newly loaded side.
5	Busy the newly inactive unit.
6	Set the patch set against that unit, load and perform a regular rts.
7	Repeat steps 1–6 for any remaining peripherals to be modified.

17.5MATE IMAGE capture procedure

Procedure 1 - MATE IMAGE capture

For SuperNode CM/SLM only the following procedure for dumping an inactive (mate) image may be useful in an abort situation or whenever an image of the inactive CM is required.

When dumping a mate image of a TABXFER'ed load it is important to realize that the image you are taking will have all peripherals in an OFFL state; therefore, this image is not BOOTABLE as it will not have the minimum configuration of at least one IOC/IOM and one TERMDEV in an "IN-SERVICE" state. To avoid this problem RTS the minimum configuration manually (steps 5 and 6).

1 **App/ACT** Prepare the SLM volume to be used to dump the inactive (mate) image.

```
> DISKUT
> LF S00DIMAGE                                        {example}
```

Lists the volume on which you want to put the image.

---

2 **ACT** From the active side MATEBIND the SLM volume you have chosen.

```
> MATELINK RTS
> MATEIO
> MATEBIND S00DIMAGE S00DIMAGE                        {example}
```

---

3 **ACT** From the active side MATELOG to the mate side.

```
> MATEIO
> MATELOG <device_name>
```

Where <device_name> is the INACT terminal.

---

4 **INACT** On the inactive side LOGIN as OPERATOR ORERATOR.

---

5 **INACT** `Mate> MAPCI;MTC;IOD;IOC 0;BSY IOC` *{or IOM}*

Mate MAPCI will not display.

---

6 **INACT** On the mate side BSY and RTS the same location that the MAP is datafilled on the active side (example: CARD 2 PORT 0;BSY 0;RTS 0).

The RTS will fail, but this is expected.

—continued—

Procedure 1
MATE IMAGE capture (continued)

7 **INACT**

```
Mate> QUIT MAPCI
```

```
Mate> PRINT MATEIODIR
```

You should see the file S00DIMAGE in MATEIODIR.

---

8 **INACT** From the inactive side DUMP the inactive (mate) image.

```
Mate> MATEIO
```

```
Mate> DUMP IMAGE S00DIMAGE ACTIVE RETAIN NODE CM   {example}
```

This command will give a couple of messages about not being able to translate the IOC/IOM devices—ignore the messages.

Wait for image dump to complete.

---

9 **ACT** From the active side loadmate the mate image just dumped to verify it.

Note: LDMATE time will be approximately 10 to 15 minutes.

```
> LDMATE DIRECT DISK S00DIMAGE                    {example}
```

Upon completion, system response should be:

```
DIRECT LDMATE complete.
Confirm successful initialization on Inactive CPU
before proceeding.
```

Similarly, the RTIF response is:

```
\BOOTING...
Loading completed...
```

Wait for loading to complete. Initialization is confirmed when the inactive processor flashes A1.

17.6 Enabling PRSM procedure

Procedure 1 - Enabling PRSM

Following is information on enabling (or disabling) the PRSM patching manager. This is only a brief introduction to PRSM.

PRSM retains all functionality of Patcher, plus:

- works on single or a set of patches,
- applies patches in correct order,
- determines the destination for patches.

In NA004B (Base05) Patcher is default, and PRSM is available for activation (POST-application).

In NA005 (Base06) PRSM is default, but Patcher is still available.

Beyond NA005 only PRSM can be used.

Note: Currently a password is required to enable PRSM. This requirement should be removed as PRSM is further deployed.

To enable PRSM from a map

```
Commands to enter:   Action taking place:
------------------   --------------------

prsmdbg              % Enters the PRSMDBG CI.

qprsm                % Verify Patcher is the active patching
                       manager.

enableprsm           % Enables PRSM if Patcher is the active
                       patching manager.

*** PRSM may require the user to enter a password ***

*** Obtain the password from your NORTEL support person ***

<password>           % Enter the password to enable PRSM.

qprsm                % Verify PRSM has been enabled.
```

—continued—

Procedure 1
Enabling PRSM (continued)

****** Example of enable**

```
> prsmdbg

PRSMDBG:

> qprsm

Currently, Patcher is the active patch manager.

> enableprsm

A password must be entered to enable PRSM.

Please enter the password:

Performing all PRSM steps to SYNC PRSM to Patcher.
```

Follows with various messaging and audits....

```
PRSM is now enabled.

> qprsm

Currently, PRSM is the active patch manager.

record stop onto sfdev
```

To disable PRSM from a map

Commands to enter:	Action taking place:
prsmdbg	% Enters the PRSMDBG CI.
qprsm	% Verify PRSM is the active patching manager.
disableprsm	% Disables PRSM if PRSM is the active patching manager.
yes	% Enter "yes" to the prompt asking if you really wish to switch back to Patcher.
qprsm	% Verify PRSM has been disabled.

—continued—

Procedure 1
Enabling PRSM (continued)

**** Example of disable

```
> prsmdbg
PRSMDBG:
> qprsm
Currently, PRSM is the active patch manager.
> disableprsm
Are you sure you want to switch back to Patcher?
Please confirm ("YES", "Y", "NO", or "N"):
> y
Performing all Patcher steps to SYNC Patcher to PRSM.
```

Follows with various messaging and audits....

```
Patcher is now enabled.
> qprsm
Currently, Patcher is the active patch manager.
record stop onto sfdev
```

17.7 Old DIRP and billing procedure

Procedure 1 - DIRP and billing preparation (old)

(formerly PRESWACT DIRP and billing)

Site and Applicator can work together to prepare the PRIMARY DIRP billing subsystems for the CC switch of activity (SWACT). This procedure gives the steps to accomplish this preparation.

PRESWACT step CHECK_DIRPPOOL is an active side procedure which displays both active and inactive datafill in table DIRPPOOL to allow the craftsperson to adjust datafill before the activity switch. The craftsperson is also advised that any TAPE volumes will need to be recovered after the switch of activity.

1 Disk drive PRIMARY billing

With this step primary disk volumes can recover automatically after SWACT.

a. **Site/ACT** If on disk (DDU), from the DIRP level ROTATE any active billing subsystem (such as AMA SMDR OCC CDR).

b. If required by the Operating Company policy, copy unprocessed DIRP files to back-up tape (using DIRPAUTO or DIRPCOPY commands).

c. Verify that table DIRPHOLD contains no unprocessed billing files (if DIRPAUTO was used above).

d. **Site and App/INACT** Ensure that regular disk volumes are in table DIRPPOOL on the inactive side. This allows the disk to be recovered by DIRP after SWACT. If necessary manually datafill the volume names in DIRPPOOL on the inactive side before SWACT.
PRESWACT step CHECK_DIRPPOOL displays the datafill for table DIRPPOOL on the inactive side.

---

2 Tape drive PRIMARY billing

With this step primary tape volumes can recover automatically after SWACT.

a. **Site/ACT** If on tape (MTD), from the DIRP level ROTATE any active billing subsystem (such as AMA SMDR OCC CDR), CLOSE the standby file, and DMNT the standby volume.
Example:

```
ROTATE AMA
CLOSE AMA STDBY 1
DMNT AMA T1   {standby volume}
```

b. Remove the demounted standby tape from the tape drive, and put up a new tape to be used as the next DIRP volume.

—continued—

Procedure 1
DIRP and billing preparation (continued)

c. Prepare a new standby volume as follows.

```
> MOUNT <x> FORMAT <volume_id>
```

Where <x> is the standby device number, and <volume_id> is the name of the standby volume.

If prompted enter the first filename, or if system response is:
"request aborted. Tape not expired (use ERASTAPE)"
then select an unused or expired tape for formatting.

```
> DEMOUNT T<x>
```

Leave the standby volume at load point and ON LINE. Immediately following SWACT, it will become the ACTIVE volume of the appropriate subsystem.

d. **Site and App/INACT** Ensure that regular tape volumes are in table DIRPPOOL on the inactive side. This allows the tape to be recovered by DIRP after SWACT. If necessary manually datafill the volume names in DIRPPOOL on the inactive side before SWACT.
PRESWACT step CHECK_DIRPPOOL displays both active and inactive datafill in table DIRPPOOL.

---

3 DPP/BMC PRIMARY billing

With this step primary DPP/BMC volumes can recover automatically after SWACT.

a. **Site/ACT** Perform this step to close the last file on the DPP and open a new one. The Operating Company may POLL the DPP if desired when this is complete.

```
> MAPCI;MTC;IOD;DPP AMA;IDXMAINT CREATE FILE AMA
```

This re-establishes the block header on the DPP.

b. **Site and App/ACT** If SMDR recording is on BMC (datafilled as TAPE in table DIRPPOOL) and NO standby volume is available for BMC, then mount a temporary STDBY TAPE volume. In table DIRPPOOL add the TAPE device as a standby BMC. Also add the device on the inactive side (see the following substep). Leave the STDBY TAPE demounted. DO NOT ROTATE the BMC. This volume will be used to rotate the BMC port OUT and back IN during POSTSWACT.

Note: Some SMDR recording applications on BMC collect SMDR records based on customer group ID only, and it is necessary to rotate the BMC tape port IN during POSTSWACT to ensure that any changes to the customer group IDs are passed to the BMC upon rotate (to ensure the RECORD HEADER is correct).

—continued—

Procedure 1
DIRP and billing preparation (continued)

c. **Site and App/INACT** Ensure that regular DPP/BMC volumes are in table DIRPPOOL on the inactive side. If necessary manually datafill the volume names in DIRPPOOL on the inactive side before SWACT. *PRESWACT step CHECK_DIRPPOOL displays both active and inactive datafill in table DIRPPOOL.*

```
Mate> TABLE DIRPPOOL;POS <pool_#>
```
Where <pool_#> is the number for DPP AMA pool.

Verify field DEVTYPE in table DIRPPOOL is DPP (not TAPE).

CAUTION
In a pool of DPP or BMC volumes, field DEVTYPE in table DIRPPOOL should be DPP (not TAPE).
Otherwise, if datafilled as TAPE you will have to recover the volume manually after SWACT.

---

4 Parallel DIRP

App Applicator should make a note of how the parallel devices are allocated in table DIRPPOOL.

Site The Operating Company is responsible for recovering parallel AMA after SWACT. Parallel DDU should come up automatically, parallel tape will have to be remounted, preferably with a new tape.

Note: DIRP no longer supports (BCS34) parallel AMA recording on a DPP or BMC volume. Table control prohibits the filling of devtype DPP in a parallel pool.

CAUTION
Recently recorded parallel data may be overwritten.
Site should copy the parallel files to tape to prevent loss of parallel data if that is the Operating Company policy.
- If a single parallel volume is in use, information on the volume will be lost over SWACT.
- If more than one parallel volume is allocated, DIRP will start recording after SWACT on the volume with the oldest time stamp. Hence information on that volume will be lost over SWACT.

17.8 Testing call survivability over a CC WarmSWACT

This section provides a procedure for testing call survivability over a CC WarmSWACT and sample call scripts. These are provided as guidelines for the testing of calls being supported over the CC WarmSWACT.

Procedure 1 - Procedure for testing call survivability

1 Ensure that the best possible mix of the above call scripts are used for the following procedure.

---

2 Establishing call—Just before the CC WarmSWACT perform the following:

On the originating set:

- Take handset off hook and dial the desired number
- Wait for terminating set to pick up
- Ensure that a voice path has been established by blowing into phone on originating set and listening for the blowing on the terminating set

On the terminating set:

- Wait for ringing
- Take handset off hook
- Ensure that a voice path has been established by blowing into phone on terminating set and listening for the blowing on the originating set

Leave both handsets offhook

Note: Only stable (in a talking state—not in transition like dialing or feature activation mode) two port calls are maintained over CC WarmSWACT. Any call which involves a feature/extension data block or service circuit will not be maintained (e.g., call waiting, call forwarding, conference call).

---

3 Testing call—Right after the new CPU takes activity (i.e., during the restart or recovery sequence on the newly active CPU) perform the following:

On the originating set:

- Ensure that a voice path has been maintained by blowing into phone on originating set and listening for the blowing on the terminating set

On the terminating set:

- Ensure that a voice path has been maintained by blowing into phone on terminating set and listening for the blowing on the originating set

Leave both handsets offhook.

—continued—

Procedure 1
Testing call survivability over a CC WarmSWACT (continued)

As soon as your are able to log into the switch (i.e., once A1 is flashing) perform the following sequence:

On the originating set:

- Ensure that a voice path has been maintained by blowing into phone on originating set and listening for the blowing on the terminating set

On the terminating set:

- Ensure that a voice path has been maintained by blowing into phone on terminating set and listening for the blowing on the originating set

Leave both handsets offhook

Once the SWCT101 log is issued (i.e., SWACT is done and dial tone has been re-established) perform the following sequence:

On the originating set:

- Ensure that a voice path has been maintained by blowing into phone on originating set and listening for the blowing on the terminating set

On the terminating set:

- Ensure that a voice path has been maintained by blowing into phone on terminating set and listening for the blowing on the originating set

Place both handsets on hook (i.e., terminate call).

Note: Any activation of a feature on a call maintained over CC WarmSWACT will cause the call to be dropped (e.g., a call maintained over CC WarmSWACT cannot activate a conference call, cannot activate call forwarding, cannot come out of hands-free mode, cannot be put on hold etc. without causing the call to be torn down).

—continued—

Procedure 1
Testing call survivability over a CC WarmSWACT (continued)

4 Ensuring call processing—Re-establish call as described in Step 1.

If at any time during this procedure any of the following conditions exist: one-way speech path, no dial tone, no speech path, constant ringing, no ringing, crosstalk, busy signal—perform the following actions:

a. Check hardware involved for faults (e.g., check set, line card, ring generator, etc.).

b. Post line or trunk at MAP position and confirm proper state or transition of state is set (e.g., if supposed to be in talking mode ensure both the originating and terminating set show CPB, when you put handset onhook the state should change from CPB to IDL).

c. Obtain a QDN for both the originating and terminating set.

d. Obtain a TRAVER for the call between the originating and terminating set.

e. Collect SWCT, ENET, NET, NETM, ENCP, PM, TRK and LINE logs from both sides of the switch (i.e., both active and inactive CPU).

Sample call scripts for testing call survivability

1. Verify ISDN calls:

line (KSET-Disp M5317T) -> trunk -> line (KSET-Disp M5209T)

(e.g., 968-xxxx ---> 6-456-xxxx)

line (PPHONE-Disp M5317T) -> trunk -> line (1FR-Disp Maestral)

(e.g., 968-xxxx ---> 9-969-xxxx)

line (KSET-Disp M5317T) -> trunk -> line (PPHONE-Meridan Bus.)

(e.g., 968-xxxx ---> 9-1-819-456-xxxx)

line (KSET-Disp M5317T) -> line (KSET-PSET)

(e.g., 968-xxxx ---> 968-xxxx)

line (BRAMFT set) -> line (BRAFS set)

(e.g., 968-xxxx ---> 968-xxxx)

line (1FR) -> line (BRAKS set)

(e.g., 968-xxxx ---> 968-xxxx)

—continued—

Sample call scripts for testing call survivability (continued)

2. Verify regular POTS calls:

line (PPHONE) -> trunk -> line (1FR)

(e.g., 969-xxxx ---> 9-1-514-970-xxxx)

line (1FR) -> line (1FR)

(e.g., 969-xxxx ---> 969-xxxx)

---

3. Verify CMS calls:

line (1FR) -> line (1FR)

(e.g., 969-xxxx ---> 969-xxxx)

---

4. Verify use of different trunk types:

line (1FR) -> PTS trunk -> line (1FR)

(e.g., 968-xxxx ---> 9-969-xxxx)

line (1FR) -> ISUP trunk (all variants supported by office)

-> line (KSET-Disp M5209T)

(e.g., 968-xxxx ---> 6-456-xxxx)

---

5. Verify use of different PM types:

line (LM) -> line (RLM)

(e.g., 969-xxxx ---> 969-xxxx)

line (LCM) -> line (RLCM)

(e.g., 969-xxxx ---> 969-xxxx)

17.9 Procedure for Loading the BMMI Data Dictionary

Procedure 1 - Loading the BMMI DD from SLM tape

1 Upon receiving the SLM tape containing the BMMI Data Dictionary, the craftsperson should INSERT and LIST the tape.

The SLM tape will have four files associated with it:

```
csp04-1.F.fvocab
csp04-1.F.evocab
csp04-1.F.pbook
bmmiloadfile
```

in CSP10 and higher, the files are labeled as follows:

CSP10_EVOCAB_4_F
CSP10_FVOCAB_4_F
CSP10_PBOOK_4_F
BMMILOADFILE and BMMIUNLOAD

---

2 Once the SLM tape has been listed, the craftsperson just has to enter the following command:

```
> EXECUTE BMMILOADFILE
```

After a short time period, the text on the MAPCI terminal will appear in French.

Supplemental BMMI DD procedures

The actual BMMI Data Dictionary (DD) for the CDN004 release is comprised of three files with the following naming convention:

csp<XX>-<N>.f.<filetype>

where:

"csp" is communications software platform

<XX> is the csp number

<N> is a BMMI DD sequence number

"f" is signifies that this is a French BMMI DD

<filetype> will be one of fvocab, evocab, or pbook.

So when listing the contents of the SLM tape, you will likely see something like this:

csp04-1.F.fvocab
csp04-1.F.evocab
csp04-1.F.pbook

There is a fourth file called “bmmiloadfile” that contains the actual commands to load the BMMI DD. This file is provided in order to simplify the operation of loading of the BMMI DD for the craftsperson. The typical contents of file “bmmiloadfile” are:

bmmi
baseload csp04-1.F.fvocab french
baseload csp04-1.F.evocab french
baseload csp04-1.F.pbook french
ispeak french

Note: Each bmmiloadfile may look slightly different depending on the sequence number and the “csp” number of the generated DD files.

Manual loading

- To *manually load* the BMMI DD files without using the bmmiloadfile, you must first enter the “bmmi” utility -

  ```
  > BMMI
  BMMI:
  ```

  Now you are ready to load the actual files using the “baseload” command -

  ```
  > BASELOAD <filename> FRENCH
  ```

  so, for example, we would enter -

  > baseload csp04-1.F.fvocab french

  > baseload csp04-1.F.evocab french

  > baseload csp04-1.F.pbook french

  While still in the “bmmi” utility, activate the French BMMI functionality by using the “ispeak” command -

  ```
  BMMI:
  ```

  ```
  > ISPEAK FRENCH
  ```

  Or, to go back to English enter -

  ```
  > ISPEAK ENGLISH
  ```

  Note: This will only affect the terminal that you are using.

Unloading

- Some time it may be necessary to *unload* the DD files. This is accomplished with the “baseunload” command.

  You must first enter the “bmmi” utility -

  ```
  > BMMI
  BMMI:
  ```

  Now you can unload the files using the command -

  > BASEUNLOAD <**DD_filetype**>

  where the only acceptable filetypes are:

  “TVOCAB” (refers to the CSPp04-1.F.fvocab file)

  “EVOCAB” (refers to the CSP04-1.F.evocab file)

  “PHRASEBOOK” (refers to the CSP04-1.F.pbook file)

  For example -

  > baseunload TVOCAB

  > baseunload EVOCAB

  > baseunload PHRASEBOOK

  Note: The “T” in “TVOCAB” is not a spelling error, rather it stands for Translated VOCAB.

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18 Appendix C: Test Call Plan

18.1 About this Appendix

This section presents generic guidelines for creating a test call plan to be used both *before and after* the switch of activity (SWACT) to a new load.

The purpose of test calls is to verify the performance of newly installed software for telephone switching systems. Test calls can ensure the smooth operation of thousands of calling situations with different combinations of telephone sets, service features, and traffic conditions on the network. Such testing helps ensure the availability and reliability of features and services for telephone users.

The term "Test Call Scripts" refers to the verification calls as predefined by the Telephone/Carrier Operating Company. These are test calls to be performed after activating the new software load in order to confirm acceptability of the new load. In the ONP procedure the Test Call Scripts are put to use as follows:

1. As a part of site preparation, the procedure *Fill in Test Call Scripts* instructs the Operating Company to "Fill in and test the Test Call Scripts." This is to provide a thorough test plan exercise for validating the new software load.
2. Then, after activating the new software load, the procedure *Do Test Calls* instructs the Operating Company to "Perform TEST CALLS that were identified ahead-of-time."

The call scripts provided below are only examples of call types that could be included in the Test Call Scripts. These samples include only basic call processing tests and provide some, but not all, critical test calls. These are provided only as a guideline. Each telephone/carrier office should determine the best mix of test calls to use based on the office's unique configuration.

CAUTION

The test calls listed in the following procedures will not apply to every office

The telephone office will have to customize the list according to its own particular configuration.

CHECKLIST

Nortel Networks recommends including the following items in your POSTSWACT testing routine.

Add any other items that are determined to be important.

18.2POSTSWACT call checklist

___ Verify date, time and DIALTONE

___ Perform Critical Call Tests (for example, 0- and 0+7/10)
See the following procedure.

___ Perform IDDD (International Direct Distance Dialing) calls

___ Check Equal Access origination and termination

___ Perform CCIS (Common Channel Inter-office Signaling) calls

___ Verify ACTS (Automatic Coin Toll Service)

___ Verify DRAMS (announcements and SIT tones)

___ Check WATS (Wide Area Telephone Service), INWATS, OUTWATS, 2-way

___ Verify Pay Station Coin Control (Coin Collect and Coin Return)

___ Verify miscellaneous services such as 311, 411, 611, and repair services

___ Check EAS (Extended Area Service) calls

___ Perform TOPS (Traffic Operator Position System) calls

___ Perform MCCS (Mechanized Calling Card Service) calls

___ Perform DISA (Direct Inward System Access) calls

___ Verify Custom Calling Features

18.2.1 Procedure 1 - Critical test calls

	Test description	From: Line type or CLLI	To: Call type Digits dialed	Test Result
1	Check for DIALTONE on all line modules			
2	Verify '0' minus route			
3	Verify '0' plus route			
4	Verify ONI 1-7, 1-10 digits			
5	Verify EAS incoming/outgoing routes			
6	Verify CAMA routes			
7	Verify local Tandem routes			
8	Verify DDO route			
9	Verify Directory Assistance			
10	Verify critical service routes (911, police, file, hospitals, and radio stations)			
11	Verify TOLL COMP (DTS) route			
12	Verify 1FR intra-office call			
13	Verify Remotes: - EAS outgoing (one route) - '0' plus '0' minus - CAMA ANI - 1FR intra- Remote			
14	Verify Operator Intercept route			
15	Verify all tones, group alarms, and announcements functional			
16	Verify all (idle) customer/network Trunks			

18.2.2 Procedure 2 - Additional test calls sample

1 Verify regular POTS calls:

line (1FR) –> line (1FR)

(969-xxxx –> 969-xxxx)

line (PPHONE) –> trunk –> line (1FR)

(969-xxxx –> 9-1-514-970-xxxx)

---

2 Verify use of different PM types:

line (LM) –> line (RLM)

(969-xxxx –> 969-xxxx)

line (LCM) –> line (RLCM)

(969-xxxx –> 969-xxxx)

---

3 Verify use of different trunk types:

line (1FR) –> PTS trunk –> line (1FR)

(968-xxxx –> 9-969-xxxx)

line (1FR) –> ISUP trunk (all variants supported by office)–> line (KSET-Disp M5209T)

(968-xxxx –> 6-456-xxxx)

---

4 Verify ISDN calls:

line (KSET-Disp M5317T) –> trunk –> line (KSET-Disp M5209T)

(968-xxxx –> 6-456-xxxx)

line (PPHONE-Disp M5317T) –> trunk –> line (1FR-Disp Maestro)

(968-xxxx _> 9-969-xxxx)

line (KSET-Disp M5317T) –> trunk –> line (PPHONE-Meridan Bus.)

(968-xxxx –> 9-1-819-456-xxxx)

line (KSET-Disp M5317T) –> line (KSET-PSET)

(968-xxxx –> 968-xxxx)

line (BRAMFT set) –> line (BRAFS set)

(968-xxxx –> 968-xxxx)

line (1FR) –> line (BRAKS set)

(968-xxxx –> 968-xxxx)

---

19 Appendix D: Dry Run Process Guideline

19.1 Introduction

19.1.1 General

This section provides guidelines for performing a Dry Run on an office that is preparing for a SNSE to SuperNode Conversion. The purpose of the Dry Run Process is to assure the office is ready for the conversion and all required site preparation work has been completed. A successful Dry Run is the best path to conversion success, since it provides a means to identify any situation that may jeopardize the ONP. Normally a Dry Run is performed 3 to 5 days prior to the actual ONP.

19.1.2 Using this Appendix

The Dry Run Process Guideline should be used in conjunction with the procedures in this document to perform the Dump and Restore Phase of the SNSE to SuperNode Conversion. The Dry Run Process is not designed to include the PRESWACT or CONVERSION/POSTSWACT Phases. When attempting a Dry Run all procedures and steps required to perform the actual conversion should be followed except where noted in this guideline. If required, deviations to the process should only be done to identify and resolve situations that will be corrected prior to the night of the actual ONP.

19.1.3 Dry Run Requirements

Before a Dry Run can be attempted, certain requirements must be met. These requirements have been established by the Project Office and are based on the various Installation Manual (IM) Planning guides used to complete the SNSE to SuperNode conversion. Customers must consult with the Project Office to determine what these requirements are, and provide evidence that that have been completed. The Dry Run Requirements must be completed in order to reduce the risk of placing the job on hold and/or rescheduling to a later date.

19.2 Dry Run Process

19.2.1 Dry Run Activities

Using NTP 297-8991-304 the following procedures will be completed for the Dry Run:

- Preliminary phase procedure
- SNSE Dump and Restore procedures
- SN Dump and Restore procedures

IMPORTANT: The "PRESWACT procedure" and the “Conversion to Supernode (SWACT and POSTSWACT) are not performed during the Dry Run.

19.2.2 Caution and Alerts

The following precautions should be noted for the Dry Run Process. There may be other cautions and alerts that exist for the Dry Run. Contact the Project Office for your market.

GSM loads and table GCALLINT

This is a restricted table that WILL NOT restore during the Dump and Restore procedure. This table must be set "not to move" during Dump and Restore procedure for both Dry Run and actual Conversion. During the actual SNSE/SN Conversion, the customer prime must have a representative with an action plan to datafill this table after the cutover.

Reference: NTP 411-2231-011 GSM DMS-MSC/HLR Call Intercept Product Guide

MTX loads and table DNHLRRTE

A problem has been identified with this table during TABXFR. If more than 100 tuples exists in this table, contact the Project Office to develop an action plan with your local TAS Group before attempting a SNSE/SN Dry Run or actual SNSE/SN Conversion.

Reference: NS10042 (CSDS/RICH)

19.2.3 Before Starting

Before starting the Dry Run, the following important activities should be reviewed by both the on-site Installer and the Applicator:

Office Configuration

The office configuration for the Dry Run must be the same as for the actual SNSE/SN Conversion. Reference the following Installation Manual Planning guides for office configuration:

- IM 02-0866 - For SN with JNET
- IM 02-5145 – For SN with ENET
- IM 02-6180 – For SNSE-XA to SN-XA
- IM 02-0930 – For SNSE-CM/SLM to SN-XA

Site Contact

Ensure there is a minimum of one FX voice line into the office.
Test this line - call the office and talk to the lead Installer during the Dry Run.

Locate the UDF (un-datafilled CM load) tape

Ask the lead Installer if the "Final PCL tape" is on site. This tape is needed to complete the Dry Run. Normally, the Final PCL tape and a back-up copy is shipped to the site at I-7 days.

TABAUDIT

Ask the lead Installer if TABAUDIT has been run on ALL tables in the SNSE switch. Verify with the lead Installer that any TABAUDIT errors have been resolved and TABAUDIT re-run on all tables. TABAUDIT must be executed on all tables in the office and the results should indicate “no errors.” This is part of the SNSE to SN Conversion Dry Run requirements. Failure to resolve TABAUDIT errors can impact the Dump and Restore process and may jeopardize the ONP. For more information regarding TABAUDIT, refer to the TABAUDIT Procedure in NTP 297-8991-304.

19.2.4 SNSE/SN Dry Run Procedures

Procedure 1 - Site Images

Ask the lead Installer if recent images have been taken of both the SNSE and the SN-Commissioning load. If not, have the lead Installer do so now. Also, ensure the office images are backed up to tape. This is very important.

CAUTION: DO NOT CONTINUE until office images are taken to disk and backed up to tape.

Procedure 2 – Preliminary Phase

Perform the "Preliminary phase procedure" in NTP 297-8991-304 One Night Process SNSE to SuperNode Conversion. This procedure involves the following activities:

1 Login and verify SNSE and SN dialups.

There should be a total of four dial-ups, two for each switch. In addition, verify the following condition exists:

- SNSE dial-ups: one through IOC 0 and one through IOC 1
- SuperNode dial-ups: both are through the CIOC

---

2 Verify "ACT_terminal" dial-ups.

The designated "ACT_terminal" dial-up information for both the SNSE and the SuperNode must be the same. This includes the following information for each: IOC/IOM number, Card number, Port number, and Baud rate. Failure to meet this requirement will cause the SNSE to SuperNode Conversion process to fail. If the ACT_terminals do not match, DO NOT CONTINUE!
Have the lead Installer change the dial-ups so that they match.

---

3 Verify the MAP terminal device.

In addition to dial-ups, check table TERMDEV on the SNSE *and* the SuperNode and ensure the default MAP terminal device is named MAP. If a different name is being used, have the lead Installer correct this situation before the ONP is scheduled to start. Failure to do this will cause the SNSE to SuperNode Conversion process to fail.

IMPORTANT: The MAP terminal device cannot be used as a dial-up.

Procedure 3 – SNSE Dump and Restore

Perform the "SNSE Dump and Restore procedures" in NTP 297-8991-304 One Night Process SNSE to SuperNode Conversion. This procedure involves the following activities:

1 Load SNSE/SN Conversion Process Modules.

The Site Ready Group is responsible for downloading the module files to the SNSE switch during the preliminary site ready check. The on-site lead Installer is responsible for the following activities with regard to the module files:

a. Copy module files to a SNSE disk volume.
b. Back-up module files to a tape.
c. Restore module files from tape to a SN disk volume.

If any of the above activities have not been done, have the lead Installer complete them now. If necessary, refer to the Site Ready Report to determine what storage device the module files were downloaded to.

---

2 Complete the SWUPGRADE SNSE Phase.

It may be necessary to perform Part A of the "Compress Files" workaround during this procedure. Part B will be done during the SN Dump and Restore Procedure.

Note: The "Compress Files" workaround (Part A and B) is not applicable to *SNSE-CM/SLM to SN-XA Conversions.*

Procedure 4 – Dry Run Clean-up on SNSE

To minimize impact to the in-service office, the SNSE switch will need to be returned back to its original state. After completing the SNSE Dump and Restore procedures and prior to performing the SN Dump and Restore procedures, perform the following activities on the SNSE and return the switch to its original state.

1 On the SNSE, unload all of the SNSE/SN Conversion process modules. These modules must be unloaded in a certain order.

CI:
> toolsup
> access on unload
> <password>
> quit all
> unload <file_name>
where <file_name> is the module file name

For SuperNodeSE CM/SLM:

Repeat for each of the following module file names:

RTSDRWRS*
RETTABX
RETROCI
RETLINES*
BSYALLOP
BSYALLEN
BSYALLDH*
BSYALLCR
BSYALLC7
RETROUI
BSYALLUI

*Not required for GSM/MTX loads

—continued—

Procedure 4
Dry Run Clean-up on SNSE (continued)

For SuperNodeSE XA-Core:

Repeat for each of the following module file names:

XARTSDRW*
XARETXFR
XARETRCI
XARETLNS*
BSYALLOP
BSYALLEN
BSYALLDH*
BSYALLCR
BSYALLC7
XARETUI
BSYALLUI

*Not required for GSM/MTX loads

---

2 On the SNSE, erase the following ONP files that were created during the SWUPGRADE SNSE Phase:

CI:
>listsf all
>erasesf MATCHNODES
>erasesf DIALUP_TERMS
>erasesf RETRO_MODS
>erasesf REX$FILE
>erasesf MAP_DEVICE*

***This file is only created if necessary.

---

3 On the SNSE, perform the following:

CI:
> tabxfr;cancel
> y
> quit
> jf start
> autodump status (to ensure it is turned on)
> autodump on

—continued—

Procedure 4
Dry Run Clean-up on SNSE (continued)

4 On the SNSE, clear the disk volume that was used to dump the table data.

For SuperNodeSE CM/SLM:

> diskut
> cvol <disk_volume>
where <disk_volume> is the volume named DUMP

Example:

CVOL S00DDUMP

> quit

For SuperNodeSE XA-Core:

> diskut
> scanf <disk_volume> delete noprompt
where <disk_volume> is the volume named DUMP

Example:

SCANF F02LDUMP DELETE NOPROMPT

> quit

Procedure 5 – SN Dump and Restore

Perform the "SN Dump and Restore procedures" in NTP 297-8991-304 One Night Process SNSE to SuperNode Conversion. This procedure involves the following activities:

1 Prepare SN for Loadmate.

Ask the lead Installer if the files on the Final PCL tape were restored to disk on the SN. If they were, set the switch up to loadmate from disk. If not, set it up to loadmate from tape.

---

2 Load SNSE/SN Conversion Process Modules

The Site Ready Group is responsible for downloading the module files to the SNSE switch during the preliminary site ready check. The on-site lead Installer is responsible for the following activities with regard to the module files:

a. Copy module files to a SNSE disk volume.
b. Back-up module files to a tape.
c. Restore module files from tape to a SN disk volume.

If any of the above activities have not been done, have the lead Installer complete them now. If necessary, refer to the Site Ready Report to determine what storage device the module files were downloaded to.

---

3 Begin the SWUPGRADE Commissioning Phase.

It may be necessary to perform Part B of the "Compress Files" workaround during this procedure. Part A was done during the SNSE Dump and Restore

Note: The "Compress Files" workaround is not applicable to *SNSE-CM/SLM to SN-XA Conversions.*

---

4 Copy files to SN UDF.

Depending on market requirements, it may be necessary to download the SITEINFO and the FEATDATA files. If applicable, download these files and mate-copy them to SFDEV on the SN UDF prior to SWACT.

The SNSE/SN Conversion Process Modules will need to be loaded on the SN UDF. If these modules have not been copied to disk on the SN, they should be mate-copied to SFDEV on the SN UDF prior to SWACT.

—continued—

Procedure 5
SN Dump and Restore (continued)

5 SWACT to SN UDF.

6 Load SNSE/SN Conversion Process Modules.

7 Begin the SWUPGRADE Undatafilled Phase.

During this phase, pay close attention to the table transfer workarounds in the ONP MOP and/or PBS bulletins. Document all TABXFR_RESTORE failures *and* resolutions in the Dry Run Report. If possible and if time allows, attempt to resolve *all* table failures.

After step TABXFR_RESTORE completes, complete the SWUPGRADE UDF Phase and continue by typing:

> swupgrade;go

This will sync the SN and complete the SWUPGRADE UDF process.

Procedure 6 – Dry Run Clean-up on SN

After completing the SN Dump and Restore Phase, perform the following activities to return the SuperNode to its original state.

CAUTION: Do not perform the PRESWACT procedures.

1 On the SN, clear the disk volume that was used to dump the table data.

For SuperNodeSE CM/SLM:

> diskut
> cvol <disk_volume>
where <disk_volume> is the volume named DUMP

Example: CVOL S00DDUMP

> quit

For SuperNodeSE XA-Core:

> diskut
> scanf <disk_volume> delete noprompt
where <disk_volume> is the volume named DUMP

Example: SCANF F02LDUMP DELETE NOPROMPT

> quit

---

2 After clearing the dump volumes, have the on-site lead Installer boot the SN with the most recent image of the SN commissioning load that was taken just prior to starting the Dry Run. This will return the SN to its original state.

This completes the SNSE/SN Dry Run Procedure

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20 Appendix E: SuperNode Data Manager Procedure

20.1 Introduction

20.1.1 General

The following procedure shall be used when the site is undergoing a SuperNode Small Exchange (SNSE) to SuperNode (SN) Conversion. This procedure details the steps to be taken when applications are in use on a SuperNode Data Manager (SDM). The SDM is an adjunct device for the handling of various applications for telecommunications systems. The SDM is capable of hosting many separate applications. This document covers the Global Call Intercept and GCDR Billing applications. All other applications will require development and validation by the Line of Business needing such application and in accordance with Nortel Networks' accepted Verification Office processes.

20.1.2 Using this Appendix

Perform this procedure after the following is complete:

- All LPPs (One Unit) are cutover to SuperNode
- All IOCs (except IOC 0) are cutover to SuperNode.
- PRESWACT is completed on SuperNode SE & SuperNode.
- Billing Volumes exist on SuperNode SE & SuperNode Disk Drives (SLM or XA-Core Disk)
- Hardware Table SDMINV is datafilled on SuperNode.
- Table SDMBILL is identical on the SuperNode SE and SuperNode
- No ACTIVE alarms on SDM or SDMBIL levels
- Table DRMAPPL is identical on SuperNode SE and SuperNode
- Access to the SDM via TELNET session. Customer is responsible for the rotation of billing and transmission of files to their billing center.

20.2 SDM Procedure Steps

20.2.1 Global Call Intercept Application (Non-billing)

Global Call Intercept is an application to allow Law Enforcement Officers to configure various directory numbers for monitoring in compliance with United States and International CALEA laws. This service is highly confidential and cannot be accessed by the Software Engineer or the Installer. The only user that can access or manipulate the Global Call Intercept application is the "GCALLUSER" login. This is protected by the Operating Company and Law Enforcement personnel. Therefore, the Operating Company must take the application down prior to the SDM being set offline on the SNSE. After the SDM is switched over to the SuperNode and the SuperNode is made active, they may reconfigure the monitored directory numbers and restore Global Call Intercept service. Please direct the Operating Company to take these actions in conjunction with the cutover process.

20.2.2 SuperNode Billing Application

Perform the following steps to complete the SDM billing procedure for GCDR (GSM loads) or AMA (NA100 loads) subsystems.

***IMPORTANT:** This is a two part procedure. Steps 1 and 2 will be performed prior to the Cutover to SuperNode (SWACT and POSTSWACT) procedure and the remaining steps will be performed after the Cutover to the SuperNode.*

20.2.3 Step 1: MOUNT BILLING ON SNSE AND SN DISKS

Prior to beginning movement of billing, assure there are provisions for mounting billing on the SNSE and SN disks.

On the SNSE:

```
> DISKUT;LV;QUIT
```

Note volume name for billing. Normally, the volume name will contain GCDR or SBA in its context. Ensure there is sufficient room on disk drive (at minimum of 100 Megabytes). If there is not, request customer to erase files on disk.
Examples of volume names are:

S00DGCDR or S00DSBA0 for CM/SLM Disk
and
F02LGCDR or F02LSBA0 for XA-Core Disk.

—continued—

On the SNODE:

```
> DISKUT;LV;QUIT
```

Note volume name for billing. Normally, the volume name will contain GCDR or SBA in its context. Ensure there is sufficient room on disk drive (at minimum of 100 Megabytes). If there is not, request customer to erase files on disk.
Examples of volume names are:

S00DGCDR or S00DSBA0 for CM/SLM Disk
and
F02LGCDR or F02LSBA0 for XA-Core Disk.

On the SNODE, mount the back-up billing volumes:

```
> MAPCI;MTC;APPL;SDMBIL;STATUS
> CONF VIEW GCDR
> CONF SET GCDR <VOL1> <VOL2>          {for GSM loads}
  or
> CONF SET AMA <VOL1> <VOL2>           {for NA100 loads}
```

Example:

```
  > CONF SET GCDR S00DSBA0 S01DSBA0      {for GSM loads}
    or
  > CONF SET AMA S00DSCR0 S00DSCR1       {for NA100 loads}
```

Confirm the change to the back-up volumes:

```
> YES
```

Check logs to confirm the change.

```
> LOGUTIL;OPEN SDMB;BACK 5;QUIT ALL
```

Recheck the configuration of the back-up billing volumes:

```
> MAPCI;MTC;APPL;SDMBIL;STATUS
> CONF VIEW GCDR                  {for GSM loads}
  or
> CONF VIEW AMA                   {for NA100 loads}
```

20.2.4 Step 2: ROTATE SDM BILLING BEFORE CUTOVER TO SN

The customer has the responsibility of billing. The information provided here is for reference only.

LOGIN to SDM:

Note: This can be done via a TELNET session or RLOGIN from the switch. Command to reference is SDMRLOGIN. A LOGIN ID and PASSWORD are required.

Go to Billing Maintenance level:

```
SDM> BILLMTC
```

Go to File System Maintenance level:

```
SDM> FILESYS
```

List the current active file:

```
SDM> LISTFILE A                 {for GSM loads}
  or
SDM> LISTFILE AMA –0            {for NA100 loads}
```

Note the current ACTIVE billing file name and rotate the billing file:

```
SDM> CLOSEC GCDR                {for GSM loads}
  or
SDM> CLOSEC AMA                 {for NA100 loads}
```

The SDM will respond with “Closed <filename>”. Note that filename should be the same as the previous listfile that was active. The only change should be the file will go from “A” to “U” (Active to Unprocessed).

<u>IMPORTANT:</u> The following steps are to be performed after the Cutover to SuperNode. Perform the following steps after the SuperNode has recovered and POSTSWACT has started.

20.2.5 Step 3: CLOSE REMAINING OPEN BILLING FILE

After the Switch cutover is complete and the SuperNode is processing calls, close the remaining ACTIVE file on the SDM before steps are taken to move the SDM links to the SuperNode. This will close the last open billing file on the SNSE.

On the SDM:

```
SDM> BILLMTC
SDM> FILESYS
SDM> LISTFILE A                 {for GSM loads}
  or
SDM> LISTFILE AMA –0            {for NA100 loads}
SDM> CLOSEC GCDR                {for GSM loads}
  or
SDM> CLOSEC AMA                 {for NA100 loads}
```

20.2.6 Step 4: BUSY AND OFFLINE SDM FROM SNSE

On the SNSE, Busy and Offline the SDM:

```
> MAPCI;MTC;APPL;SDM
> BSY
> YES                           {To confirm Busy Impact}
> OFFL
> QUIT ALL
```

20.2.7 Step 5: BUSY AND OFFLINE MS/SDM LINKS FROM SNSE

On the SNSE, determine card location of the SDM on the MS Shelf, then Busy and Offline the MS/SDM links (card location can be found in Table SDMINV or by performing a TRNSL on the MS cards).

```
> MAPCI;MTC;MS;SHELF
> BSY 0 <Card #> CHAIN
> BSY 1 <Card #> CHAIN
> OFFL 0 <Card #> CHAIN
> OFFL 1 <Card #> CHAIN
> QUIT ALL
```

20.2.8 Step 6: CUTOVER SDM FROM SNSE TO SN

On the SuperNode, ensure the SDM and the MS cards (to the SDM) are OFFL.

```
> MAPCI;MTC;APPL;SDM
```

IMPORTANT: ***Inform the on-site Installer to cutover all 4 switches on the SDM SwitchBox from SNSE to SuperNode.***

20.2.9 Step 7: BUSY AND RTS MS/SDM LINKS FROM SN

On the SuperNode, determine card location of the SDM on the MS Shelf, then Busy and RTS the MS/SDM Links (card location can be found in Table SDMINV or by performing a TRNSL on the MS Cards).

```
> MAPCI;MTC;MS;SHELF
> BSY 0 <Card #> CHAIN
> BSY 1 <Card #> CHAIN
> RTS 0 <Card #> CHAIN
> RTS 1 <Card #> CHAIN
```

Go into the card level and ensure the ports are also in-service. If they are not, put them into an in-service state. The ports should be "P" (P-SIDE BUSY), as the SDM is in an offline state.

```
> CARD <Card #>
> BSY 0 PORT <Port #>
> BSY 1 PORT <Port #>
> RTS 0 PORT <Port #>
> RTS 1 PORT <Port #>
> QUIT ALL
```

20.2.10 Step 8: BUSY AND RTS SDM FROM SN

On the SuperNode, Busy and return the SDM into service.

```
> MAPCI;MTC;APPL;SDM
> BSY
> RTS
```

The billing will go into an autorecovery mode once the SDM and its applications have recovered. The active billing file will now be open on the SDM and the billing file on the SLM disk will be sent to the SDM. The user may note two ACTIVE files at the same time but only one will be marked as PRIMARY.

Check status of SDMBIL:

```
> MAPCI;MTC;APPL:SDMBIL;STATUS
```

Note: It may take up to 10 minutes for the SDM to return to service.
GCDR should show a status of INSV. Anything else, contact the next level of support.

Check the configuration of the SDM Billing:

```
> CONF VIEW GCDR                    {for GSM loads}
  or
> CONF VIEW AMA                     {for NA100 loads}
```

Example response:

Stream GCDR is activated for SDM billing.
The backup volumes are S00DSBA0 and S01DSBA0

If the back-up volumes are mounted this procedure is complete. If the back-up volumes are not mounted, perform the following:

```
> CONF SET GCDR <VOL1> <VOL2>          {for GSM loads}
  or
> CONF SET AMA <VOL1> <VOL2>           {for NA100 loads}
```

Example:

```
  > CONF SET GCDR S00DSBA0 S01DSBA0      {for GSM loads}
    or
  > CONF SET AMA S00DSCR0 S00DSCR1       {for NA100 loads}
```

—continued—

Confirm the change to the back-up volumes:

```
> YES
```

Check logs to confirm the change.

```
> LOGUTIL;OPEN SDMB;BACK 5;QUIT ALL
```

Recheck the configuration of the back-up volumes

```
> MAPCI;MTC;APPL;SDMBIL;STATUS
> CONF VIEW GCDR                    {for GSM loads}
  or
> CONF VIEW AMA                     {for NA100 loads}

> QUIT ALL
```

This concludes the SDM Procedure.

21 Appendix F: File Processor Cutover Procedure

21.1 Introduction

21.1.1 General

The following procedure shall be used when the Site is undergoing a SuperNode Small Exchange (SNSE) to SuperNode (SN) Conversion. This procedure details the steps to be taken when billing is routed to a File Processor (FP) device. The FP is an adjunct billing device for telecommunications systems. This document covers the GCDR billing application. All other applications or billing subsystems will require development and validation by the Line of Business needing such application and in accordance with Nortel Networks' accepted Verification Office processes.

21.1.2 Using this Appendix

Perform this procedure after the following is complete:

- All LPPs (One Unit) are cutover to SuperNode.
- All IOCs (except IOC 0) are cutover to SuperNode.
- PRESWACT is completed on SuperNode SE and SuperNode.
- Billing Volumes exist on SuperNode SE & SuperNode Disk Drives (SLM or XA-Core Disk).
- Hardware Tables for FP are datafilled (APINV / APCDINV / FPDEVINV / FPDIPINV / SHADOW) on SuperNode.
- No ACTIVE alarms on FP or in DRM subsystem.
- FP Load and its associated patches are present on a disk volume that is accessible to SuperNode.
- Table DRMAPPL is identical on SuperNode SE and SuperNode
- Table DRMPOOL has GCDRPOOL datafilled with the exception of disk volumes on SuperNode.

21.2FP Cutover Procedure Steps

21.2.1 Attention

***IMPORTANT:** This is a two part procedure. Step 1 will be performed prior to the Cutover to SuperNode (SWACT and POSTSWACT) procedure and the remaining steps will be performed after the Cutover to the SuperNode.*

21.2.2 Step 1: MOUNT BILLING ON SN DISK

This step will mount billing volumes on the SuperNode disks so that billing will be captured after the Cutover to the SuperNode.

On the SNSE:

```
> TABLE DRMPOOL;POS GCDRPOOL;QUIT
```

Note the volumes that are mounted. These volumes will need to be mounted on the SNODE in the order in which they appear in table DRMPOOL. When mounting volumes on the SNODE a notice will appear that the FP volumes are not available and ask if you want to perform the mount operation. Answer YES to this notice. This notice should not appear on XA-Core disk volumes.

On the SuperNode:

```
> DISKUT;LV;QUIT
```

Note volume name for billing. Normally the volume name will contain GCDR in the context. Ensure there is sufficient room on disk drive (10 Megabytes). If there is not, request customer to erase files on disk.

Examples of volume names are:

S00DGCDR for CM/SLM Disk
or
F02LGCDR for XA-Core Disk

Check Table DRMPOOL for mounted disk volumes:

```
> TABLE DRMPOOL;POS GCDRPOOL;QUIT
```

There should be no volumes mounted.

—continued—

On the SuperNode, perform the following to mount all volumes that were previously datafilled in Table DRMPOOL on the SNSE (this will include both FP and CM volumes):

```
> MAPCI;MTC;APPL;OAMAP;DRM
> MOUNT GCDR <vol_name> <CM or FP#> <PRIORITY>
> YES                          {for confirmation}
```

Examples:

```
  >MOUNT GCDR F02LGCDR CM 1
  >MOUNT GCDR SS0GCDR1 FP0 1
```

Where <vol_name> is the disk volume name on the FP or CM. FP0 is equal to the FP number which could be a different number depending up the hardware inventory table. The priority number "1" is the default value unless the customer wants to designate that volume a different priority number.

Continue until all billing volumes are mounted as they were on the SNSE.

After mounting all volumes, perform the following command:

```
> INFO GCDR VOL ALL          (Displays the mount status of the billing volumes)
```

The STATE of the recently mounted volume should be OK.
DO NOT PROCEED unless the volume is in this STATE.

NOTE: Only the CM/SLM and XA-Core disk volumes will be "OK". The FP volumes will not be "OK" until after the cutover to SN and the FP is returned to service.

```
> QUIT ALL
```

ATTENTION: ***The following steps are to be performed after the Cutover to SuperNode. Perform the following steps after the SuperNode has recovered and POSTSWACT has started.***

21.2.3 Step 2: ROTATE BILLING TO SNSE DISK

Rotate the active billing volume to the SLM / DISK.

On the SNSE:

```
> MAPCI;MTC;APPL;OAMAP;DRM
> MONITOR GCDR          ✍ This will display the ACTIVE billing volume
> ROTATE GCDR <vol_name>
Example:
> ROTATE GCDR F02LGCDR  (vol_name will be CM/SLM or XA-Core
disk)
> QUIT ALL
```

Ensure that the newly ACTIVE Billing Volume is now set to the SLM / DISK. This can also be verified by checking DRM logs in LOGUTIL

LOGUTIL;OPEN DRM;BACK 5;QUIT ALL

21.2.4 Step 3: DEMOUNT BILLING VOLUMES ON FP

On the SNSE, demount all billing volumes on the FP that are currently listed in Table DRMPOOL. The only billing volumes that will be left in Table DRMPOOL will be designated to the CM.

```
> TABLE DRMPOOL;POS GCDRPOOL;QUIT
```

Note the billing volumes designated to the FP. This information will also be required when you mount billing files on the SNODE.

```
> MAPCI;MTC;APPL;OAMAP;DRM
> DEMOUNT GCDR <vol_name>
Example:
> DEMOUNT GCDR SS0GCDR0
```

Repeat the DEMOUNT command until all volumes to the FP have been removed from Table DRMPOOL.

—continued—

You can check the status of billing volumes by going to Table DRMPOOL and positioning on tuple GCDRPOOL or performing the command:

```
> INFO GCDR VOL ALL
```

This will state what volumes are currently mounted.

```
> QUIT ALL
```

21.2.5 Step 4: BUSY AND OFFLINE FP FROM SNSE

Busy and Offline all DEVICES and CONTROLLERS on FP.

```
> MAPCI;MTC;PM;POST FP 0
```
(The FP # maybe different depending upon datafill)

Go into DEVICES Level and post all inservice devices. Bsy and offline those devices.
NOTE: If any devices are already in a MANB or OFFL state, note for reference later in this process. Any devices in this state will be left in an OFFL state until the ONP is completed.

```
> DEVICES
> POSTDEV INSV
> BSY SET
> YES                    (To confirm Busy Impact)
> POSTDEV MANB
> OFFL SET
> QUIT
```

Busy and Offline the Controllers:

```
> BSY CTRL 0
> YES                    (To confirm Busy Impact)
> OFFL CTRL 0
> BSY CTRL 1
> YES                    (To confirm Busy Impact)
> OFFL CTRL 1
> QUIT
```

—continued—

On the SNSE, Busy and Offline the FP:

```
> BSY
> YES                    (To confirm Busy Impact)
> OFFL

> QUIT ALL
```

21.2.6 Step 5: BUSY AND OFFLINE MS/FP LINKS FROM SNSE

On the SNSE, determine card location of FP on the MS Shelf, then Busy and Offline the MS/FP Links (card location can be found in Table APINV or by performing a TRNSL on the MS Cards).

On the SNSE:

```
> MAPCI;MTC;MS;SHELF
> BSY 0 <Card #> CHAIN
> BSY 1 <Card #> CHAIN
> OFFL 0 <Card #> CHAIN
> OFFL 1 <Card #> CHAIN
> QUIT ALL
```

21.2.7 Step 6: CUTOVER FP FROM SNSE TO SN

Ensure the FP and the MS cards (to the FP) are OFFL on the SuperNode. Display table APINV on the SuperNode to determine which MS chain card the FP is connected to

On the SuperNode:

```
> MAPCI;MTC;PM;POST FP 0
```
(The FP # maybe different depending upon datafill)

IMPORTANT: ***Inform the on-site Installer to cutover all 4 switches on the FP SwitchBox from SNSE to SuperNode.***

21.2.8 Step 7: BUSY AND RTS MS/FP LINKS FROM SN

On the SuperNode, determine the card location of FP on the MS Shelf, then Busy and RTS the MS Cards/FP Links (card location can be found in Table APINV or by performing a TRNSL on the MS Cards).

```
> MAPCI;MTC;MS;SHELF
> BSY 0 <Card #> CHAIN
> BSY 1 <Card #> CHAIN
> RTS 0 <Card #> CHAIN
> RTS 1 <Card #> CHAIN
```

Go into the card level and ensure the ports are also inservice. If they are not, put them into an inservice state. The ports should be “P” (P-SIDE BUSY), as the FP is in an offline state.

```
> CARD <Card #>
> BSY 0 PORT <Port #>
> BSY 1 PORT <Port #>
> RTS 0 PORT <Port #>
> RTS 1 PORT <Port #>
> QUIT ALL
```

21.2.9 Step 8: BUSY AND RTS FP FROM SN

On the SuperNode, Busy, LoadPM, and return the FP into service. Ensure the FP Load is on a disk and datafilled properly in Table PMLOADS.

```
> MAPCI;MTC;PM;POST FP 0
> BSY
> LOADPM
> RTS
```

Ensure the FP CPUs are in SYNC. If not, perform the following:

```
> PLANE
> SYNC FORCE
> YES
```

—continued—

Put the CONTROLLERs into service

```
> DEVICES
> BSY CTRL 0
> RTS CTRL 0
> BSY CTRL 1
> RTS CTRL 1
```

Put the DEVICES into service

```
> POSTDEV OFFL
> BSY SET
```

NOTE: If there were devices that were OFFL on the SNSE, post those devices now and offline now them before proceeding.

```
> POSTDEV MANB
> RTS SET
```

If the SHADOW DISK comes up SYSB, ensure the MASTER is inservice. The system should bring the alternate disk into service once it recognizes the Master Disk is available. At this point, the slave disk is syncing up to the master disk. Do not proceed until all DEVICES are INSV.

Note: The sync operation may time up to 5 minutes to complete.

21.2.10 Step 9: ROTATE BILLING TO SN FP DISK

Rotate the active billing volume to the FP DISK.

On the SuperNode:

```
> MAPCI;MTC;APPL;OAMAP;DRM
> MONITOR GCDR          ✍ This will display the ACTIVE billing volume
> ROTATE GCDR <vol_name>
Example:
> ROTATE GCDR SS0GCDR0  (vol_name will be the FP Disk Volume)
> QUIT ALL
```

—continued—

Ensure that the newly ACTIVE Billing Volume is now set to the FP DISK. This can also be verified by checking DRM logs in LOGUTIL

LOGUTIL;OPEN DRM;BACK 5;QUIT ALL

Set the priority levels of the SLM/Disk Volumes at a lower value than that of the FP DISK Volumes. IF the volume is already mounted, demount it first and then mount it at a lower priority level.

```
> MAPCI;MTC;APPL;OAMAP;DRM
> MOUNT GCDR <vol_name> CM <priority>
```

Example:

```
  > MOUNT GCDR F02LGCDR CM 2
```

21.2.11 Step 10: VERIFY DOWNSTREAM BILLING COLLECTION

Have the Operating Company contact the billing center agent to start the FTAM session. Verify that downstream billing is being collected by entering the following command at the CI level:

```
> QUERYXFER
```

The result should display an EIU with a file transfer in progress if it is working. All files that were on the SNSE at the time of cutover will be transferred as well as files that were collected on the SNODE disks once the FTAM session is established.

This concludes the FP Cutover procedure.

21.3 Cutover Abort Procedure Steps

21.3.1 Step 1: MOUNT BILLING ON SNSE DISK

During this step mount all volumes found in Table DRMPOOL in the SNSE Except the XA Disks which should already be there. Mount Volumes in the Order in which they appear in the table. A notice will appear that the FP volumes are not available and ask if you want to perform the mount operation. Answer yes to this notice. This notice should not appear on XA disk volumes.

This step will mount billing volumes on the SNSE disks so that billing will be captured after the abort to the SNSE.

On the SNSE:

```
> DISKUT;LV;QUIT
```

Note volume name for billing. Normally the volume name will contain GCDR in the context. Ensure there is sufficient room on disk drive (10 Megabytes). If there is not, request customer to erase files on disk.
Examples of volume names are:
S00DGCDR for CM/SLM Disk or F02LGCDR for XA-Core Disk

Check Table DRMPOOL for mounted disk volumes

```
> TABLE DRMPOOL;POS GCDRPOOL;QUIT
```

No volumes should be mounted, so use the following steps to mount the XA-Core disks into DRMPOOL:

```
> MAPCI;MTC;APPL;OAMAP;DRM
> MOUNT GCDR <vol_name> CM 1
```

Example:

```
  >MOUNT GCDR F02LGCDR CM 1
```

Ensure mounted disks have been properly mo unted.
This can be done by performing the following:

```
> INFO GCDR VOL ALL
```

The STATE of the recently mounted volume should be OK.
DO NOT PROCEED unless the volume is in this STATE.

```
> QUIT ALL
```

<u>ATTENTION:</u> The following steps are to be performed after the Abort Cutover to SNSE. Perform the following steps after the SNSE has recovered and POSTSWACT has started.

21.3.2 Step 2: ROTATE BILLING TO SN DISK

Rotate the active billing volume to the SLM / DISK.

On the SuperNode:

```
> MAPCI;MTC;APPL;OAMAP;DRM
> MONITOR GCDR          ✍ This will display the ACTIVE billing volume
> ROTATE GCDR <vol_name>
```

Example:

```
> ROTATE GCDR F02LGCDR  (vol_name will be CM/SLM or XA-Core
disk)
> QUIT ALL
```

Ensure that the newly ACTIVE Billing Volume is now set to the SLM / DISK. This can also be verified by checking DRM logs in LOGUTIL

LOGUTIL;OPEN DRM;BACK 5;QUIT ALL

21.3.3 Step 3: DEMOUNT BILLING VOLUMES ON FP

On the SuperNode, demount all billing volumes on the FP that are currently listed in Table DRMPOOL. The only billing volumes that will be left in Table DRMPOOL will be designated to the CM.

```
> TABLE DRMPOOL;POS GCDRPOOL;QUIT
```

Note the billing volumes designated to the FP. This information will also be required when you mount billing files on the SNODE.

```
> MAPCI;MTC;APPL;OAMAP;DRM
> DEMOUNT GCDR <vol_name>
```

Example:

```
> DEMOUNT GCDR SS0GCDR0
```

Repeat the DEMOUNT command until all volumes to the FP have been removed from Table DRMPOOL.

—continued—

You can check the status of billing volumes by going to Table DRMPOOL and positioning on tuple GCDRPOOL or performing the command:

```
> INFO GCDR VOL ALL
```

This will state what volumes are currently mounted.

```
> QUIT ALL
```

21.3.4 Step 4: BUSY AND OFFLINE FP ON SN

Busy and Offline all DEVICES and CONTROLLERS on FP.

```
> MAPCI;MTC;PM;POST FP 0
```
(The FP # maybe different depending upon datafill)

Go into DEVICES Level and post all inservice devices. Bsy and offline those devices.
NOTE: If any devices are already in a MANB or OFFL state, note for reference later in this process. Any devices in this state will be left in an OFFL state until the ONP is completed.

```
> DEVICES
> POSTDEV INSV
> BSY SET
> YES                    (To confirm Busy Impact)
> POSTDEV MANB
> OFFL SET
> QUIT
```

Busy and Offline the Controllers:

```
> BSY CTRL 0
> YES                    (To confirm Busy Impact)
> OFFL CTRL 0
> BSY CTRL 1
> YES                    (To confirm Busy Impact)
> OFFL CTRL 1
> QUIT
```

—continued—

Busy and Offline the FP:

```
> BSY
> YES                    (To confirm Busy Impact)
> OFFL

> QUIT ALL
```

21.3.5 Step 5: BUSY AND OFFLINE MS/FP LINKS FROM SN

On the SuperNode, determine card location of FP on the MS Shelf then Busy and Offline the MS/FP Links (card location can be found in Table APINV or by performing a TRNSL on the MS Cards).

```
> MAPCI;MTC;MS;SHELF
> BSY 0 <Card #> CHAIN
> BSY 1 <Card #> CHAIN
> OFFL 0 <Card #> CHAIN
> OFFL 1 <Card #> CHAIN
> QUIT ALL
```

21.3.6 Step 6: CUTOVER FP FROM SN TO SNSE

Ensure the FP and the MS cards (to the FP) are OFFL on the SNSE.

```
> MAPCI;MTC;PM;POST FP 0
```
(The FP # maybe different depending upon datafill)

IMPORTANT: ***Inform the on-site Installer to cutover all 4 switches on the FP SwitchBox from SuperNode to SNSE.***

21.3.7 Step 7: BUSY AND RTS MS/FP LINKS FROM SNSE.

On the SNSE, determine card location of FP on the MS Shelf then Busy and RTS the MS/FP Links (card location can be found in Table APINV or by performing a TRNSL on the MS Cards).

```
> MAPCI;MTC;MS;SHELF
> BSY 0 <Card #> CHAIN
> BSY 1 <Card #> CHAIN
> RTS 0 <Card #> CHAIN
> RTS 1 <Card #> CHAIN
```

Go into the card level and ensure the ports are also in-service. If they are not, put them into an in-service state. The ports should be "P" (P-SIDE BUSY), as the FP is in an offline state.

```
> CARD <Card #>
> BSY 0 PORT <Port #>
> BSY 1 PORT <Port #>
> RTS 0 PORT <Port #>
> RTS 1 PORT <Port #>
> QUIT ALL
```

21.3.8 Step 8: BUSY AND RTS FP FROM SNSE

On the SNSE, Busy, LoadPM, and return the FP into service. Ensure the FP Load is on a disk and datafilled properly in Table PMLOADS.

```
> MAPCI;MTC;PM;POST FP 0
> BSY
> LOADPM
> RTS
```

Ensure the FP CPUs are in SYNC. If not, perform the following:

```
> PLANE
> SYNC FORCE
> YES
```

—continued—

Put the CONTROLLERs into service

```
> DEVICES
> BSY CTRL 0
> RTS CTRL 0
> BSY CTRL 1
> RTS CTRL 1
```

Put the DEVICES into service

```
> POSTDEV OFFL
> BSY SET
```

NOTE: If there were devices that were OFFL on the SNSE, post those devices now and offline now them before proceeding.

```
> POSTDEV MANB
> RTS SET
```

If the SHADOW DISK comes up SYSB, ensure the MASTER is inservice. The system should bring the alternate disk into service once it recognizes the Master Disk is available. At this point, the slave disk is syncing up to the master disk. Do not proceed until all DEVICES are INSV.

Note: The sync operation may take up to 5 minutes to complete.

21.3.9 Step 9: ROTATE BILLING TO SNSE FP DISK

Rotate the active billing volume to the FP DISK.

On the SNSE:

```
> MAPCI;MTC;APPL;OAMAP;DRM
> MONITOR GCDR          ✍ This will display the ACTIVE billing volume
> ROTATE GCDR <vol_name>
```

Example:

```
> ROTATE GCDR SS0GCDR0  (vol_name will be the FP Disk Volume)
> QUIT ALL
```

Ensure that the newly ACTIVE Billing Volume is now set to the FP DISK. This can also be verified by checking DRM logs in LOGUTIL

LOGUTIL;OPEN DRM;BACK 5;QUIT ALL

—continued—

Set the priority levels of the SLM/Disk Volumes at a lower value than that of the FP DISK Volumes. IF the volume is already mounted, demount it first and then mount it at a lower priority level.

```
> MAPCI;MTC;APPL;OAMAP;DRM
> MOUNT GCDR <vol_name> CM <priority>
```

Example:

```
  > MOUNT GCDR F02LGCDR CM 2
```

21.3.10 Step 10: VERIFY DOWNSTREAM BILLING COLLECTION

Have the Operating Company contact the billing center agent to start the FTAM session. Verify that downstream billing is being collected by entering the following command at the CI level:

```
> QUERYXFER
```

The result should display an EIU with a file transfer in progress if it is working. All files that were on the SNSE at the time of cutover will be transferred as well as files that were collected on the SNODE disks once the FTAM session is established.

This concludes the FP Abort Cutover procedure.

DMS–100 Family

Global Software Delivery

One Night Process SuperNode SE to SuperNode Conversion

Address comments to:
Product Documentation – Dept 3423
Nortel Networks
P.O. Box 13010
RTP, N C 27709-3010
1-877-662-5669, Option 4 + 1

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