

297-8991-303

DMS-100 Family

Global Software Delivery

One Night Process Procedures Guide

Base07 and higher Standard 19.03 January 10, 2006

- *Supports up to CSP22/TL22 (Base23)*
- *“Global” procedures (generic for all markets)*
- *DMS -100, -200, -250, -300, -500, GSM, MTX, SL100, GL100.*

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Global Software Delivery ONP Procedures Guide

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Jan 10, 2006

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Standard Release 19.03 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP22/Base23.

- Standard release of document.
- Minor corrections to Site Preparation Phase section.

Sep 1, 2005

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Preliminary Release 19.02 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP22/Base23.

- Revised Site Preparation Phase section “Processor tests XACORE”.
- Made corrections to Mated-Pair HLR upgrade procedure.
- Minor revisions and corrections to various sections.

May 20, 2005

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Standard Release 18.03 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP21/Base22.

- Added sections for Mated-Pair HLR upgrades.
- Minor revisions and corrections to various sections.

April 11, 2005

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Preliminary Release 19.01 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP22/Base23.

- Limited release for CSP22/SN000009 Product Validation programs.

Mar 10, 2005

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Preliminary Release 18.02 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP21/Base22.

- Limited release for SN000008, MTX13, and GSM18 VO programs.
- Revised TABAUDIT section – added CAB95 information.
- Added section for Electronic S/W Delivery.
- Minor revisions and corrections to various sections.

Dec 1, 2004

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Standard Release 17.03 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP20/Base21.

- Included changes from CSP20/SN000007 Product Validation programs.
- Revised TABXFR Summary section in Appendix A.
- Minor revisions to various sections to support wireless applications.

Nov 18, 2004

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Preliminary Release 18.01 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP21/Base22.

- Limited release for CSP21/SN000008 Product Validation programs.

July 1, 2004

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Preliminary Release 17.02 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP20/Base21.

- Limited release for CSP20/SN000007 Product Validation programs.
- Added information for Back-to-Back ONP requirements

April 1, 2004

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Preliminary Release 17.01 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP20/Base21.

- Limited release for CSP20/SN000007 Product Validation programs.
- Removed “Prepare Test Image” procedure.
- Added Wireless HLR Provisioning Testing section in Appendix C.
- Minor revisions and corrections to various sections.

September 1, 2003

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Standard Release 16.03 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP19/Base20.

- Added information for Wireless customers.
- Added Wireless test call plan.
- Revised sections for Remote Site Access.

May 30, 2003

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Preliminary Release 16.02 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP19/Base20.

- Limited release for SN000006 VO program only.

March 12, 2003

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Standard Release 15.04 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP18/Base19.

- Revised steps 4 and 5 in section TABAUDIT procedure.
- Revised TABAUDIT section in Appendix A.

February 14, 2003

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Standard Release 15.03 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP18/Base19.

- Issued to support standard upgrades to CSP18 (SN000005) while validation of CSP19 preliminary version is still ongoing.
- Removed XA-Core Release Upgrade procedure in Appendix D.

January 15, 2003

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*

Preliminary Release 16.01 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP19/Base20.

- Limited release for SN000006 product validation programs only.

October 23, 2002

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*

Preliminary Release 15.02 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP18/Base19 (for example, NA018). Limited release for VO program only.

- Revised XA-Core Release Upgrade procedure in Appendix D.

October 12, 2002

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*

Preliminary Release 15.01 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP18/Base19 (for example, NA018). Limited release for VO program only.

- Issued to support validation upgrades to CSP18 (SN000005).

September 27, 2002

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*

Standard Release 14.04 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP17/Base18 (for example, NA017).

- Added SBA information to DIRP and Billing procedures.
- Minor revisions and corrections to various sections.

July 22, 2002

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*

Standard Release 14.03 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP17/Base18 (for example, NA017).

- Added procedure for XA-Core firmware upgrade notice.

May 17, 2002

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*

Preliminary Release 14.02 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP17/Base18 (for example, NA017). Limited release for VO program only.

- Added GSM and MTX procedure to DIRP and Billing section.
- Deleted Appendix F section and all references to the S/W Delivery Data Service ONP. Global S/W Delivery no longer supports this process.
- Minor revisions and corrections to various sections.

December 10, 2001

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*

Preliminary Release 14.01 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP17/Base18 (for example, NA017). Limited release for VO program only.

- Changed document name to “Global Software Delivery – One Night Process Procedures Guide.
- Revised section “AutoONP procedure” to consolidate the CM/SLM and XA-Core procedures into a single procedure.
- Added “Dump Office Image” procedure to section AutoONP procedure.
- Revised section “CMMOCK” to include PCL Final Load Tape.
- Minor revisions and corrections to various sections.

May 4, 2001

297-8991-303 *One Night Process Software Delivery Procedures*

Standard Release 13.03 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP15/Base16 (for example, NA015).

- Revised section “Site preparation overview” to update SDM references.
- Minor revisions to AutoONP procedures.

March 14, 2001

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 13.02 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP15/Base16 (for example, NA015). Limited release for VO program only.

- Revised PRESWACT Abort procedure in Appendix A.
- Minor revisions to AutoONP and CMMOCK procedures.
- Revised XA-Core Release Upgrade procedure in Appendix D.

February 14, 2001

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 13.01 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP15/Base16 (for example, NA015). Limited release for VO program only.

- Moved AutoONP section “CI command descriptions” into Appendix A incorporating this information into section “SWUPGRADE summary.”
- Added ONPREADY command to section “SWUPGRADE READY.”
- Revised sections TABAUDIT, Site Preparation Overview, and Site Ready DMS-Resident maintenance tool.

October 4, 2000

297-8991-303 *One Night Process Software Delivery Procedures*

Standard Release 12.03 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP14/Base15 (for example, NA014).

September 18, 2000

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 12.02 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP14/Base15 (for example, NA014). Limited release for VO program only.

- Additional revisions/corrections made to “XA-Core Release Upgrade procedures” in Appendix D.

September 7, 2000

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 12.02 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP14/Base15 (for example, NA014). Limited release for VO program only.

- Revised "About this document" section to include references to IM's for the XA-Core Release Upgrade procedure.
- Revised "XA-Core Release Upgrade procedures" in Appendix D to include references to IM 65-6174 and IM 78-6175.

July 28, 2000

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 12.01 for ONP upgrades from CSP06/Base07 PCLs and above to CSP06/Base07 and above, up to and including CSP14/Base15 (for example, NA014).

- Changed "to Base03" references to "from CSP06/Base07" to reflect the fact that this document is now only applicable for upgrades from CSP06 and higher using the AutoONP method.
- Updated the Site Preparation sections to include XA-Core.
- Removed the "AutoONP MOP Checklist" section.
- Renamed "Updating loads in the Message Switch" section to "Restore CM and MS load files" and included XA-Core procedures.
- Updated "AutoONP Procedure" section to include the XA-Core AutoONP procedure.
- Updated "Revert and Abort Procedures."
- Removed "Active terminal session" and "Trace device output" sections.
- Removed manual ONP method (BCSUPDATE) procedures.
- Removed "BCSUPDATE step description" sections from Appendix A.
- Added "PRESWACT DIRP and billing" procedures and "Recover DIRP and billing" to Appendix B and included references in AutoONP.
- Added "XA-Core Release Upgrade procedures" as Appendix D.
- Revised "CMMOCK Procedures" in Appendix E to include XA-Core.
- Archived Volume 2 (XA-Core).

April 28, 2000

297-8991-303 *One Night Process Software Delivery Procedures*

Standard Release 11.03 for ONP to Base03 PCLs and above, up to and including CSP13/Base14 (for example, NA013).

February 18, 2000

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 11.02 for ONP to Base03 PCLs and above, up to and including CSP13/Base14 (for example, NA013).

December 20, 1999

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 11.01 for ONP to Base03 PCLs and above, up to and including CSP13/Base14 (for example, NA013).

November 9, 1999

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

October 15, 1999

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

September 28, 1999

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

September 2, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 10.02 for ONP to Base03 PCLs and above, up to and including CSP12/Base13 (for example, NA012).

- Changed preferred ONP method to AutoONP and moved manual ONP procedures to appendix D.

August 13, 1999

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

August 11, 1999

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

June 28, 1999

297-8991-303 *One Night Process Software Delivery Procedures*
Preliminary Release 09.04 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011) and CSP10.4.

- Volume 2 incorporated note regarding file listing capabilities for commands LISTVOLS versus LISTFL.

June 11, 1999

297-8991-303 *One Night Process Software Delivery* **DRAFT** Release 09.02 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011) and CSP10.4 for XA-Core.

- Volume 2 incorporated design review feedback for AUTO_UNSPPLIT_OFF , TABXFR, PRESWACT and SCANF.

June 1, 1999

297-8991-303 *One Night Process Software Delivery Procedures* **Draft** Release 09.01 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011) and CSP10.4.

- Split document into 2 volumes.
- Documented the manual ONP procedure required for XA-Core
- Appendix A updated with new commands

May 31, 1999

- Restructured Volume 1 and Volume 2

297-8991-303 *One Night Process Software Delivery Procedures Standard* Release 08.05 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011).

- Changed variable TABXFR_LIMIT in procedures AUTOONP (step 9), AUTOONP MOCK (step 7), and CMMOCK (step 3): changed LIMIT to UNLIMITED and removed “or unlimited” from text “...is equivalent to no limit or unlimited.”
- Changed step 6 of CMMOCK procedure in appendix E: removed (CSP11->) from step SET_LOGIN_BANNER and added step DISABLE_PRSM_AUDIT_ACT.

May 6, 1999

297-8991-303 *One Night Process Software Delivery Procedures Standard* Release 08.04 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011).

- Uniformized headings, page numbering, headers, etc. throughout the document.
- Changed all references to Nortel and Northern Telecom to Nortel Networks.
- Changed minimum base level on cover page, title page, and the following three dates in the Publication History from "Base12" back to "Base03".
- Added information on minimum STP load levels for using AutoONP.
- Added Precheck steps for CSP08 and higher in step 10 of the Site Preparation procedure section of the ONP SuperNode MOP chapter.
- Added information on TIMEFRAME command for CSP07 and higher to procedure 1, step 2 of the AUTOTABAUDIT procedure section of the ONP SuperNode MOP chapter.
- Added step for 911 test call to procedure 8 of the SWACT and POSTSWACT procedure section of the ONP SuperNode MOP chapter.
- Added information on SWUPGRADE READY in Appendix A.
- Added information on step DISPLAY_NOC_USERS in the BCSUPGRADE summary section of Appendix A.
- Updated section Procedure for loading the BMMI Data Dictionary of Appendix B to show the different filenames for CSP10 and higher.
- Removed information on Nortel on-line help in the Introduction section of Appendix D.
- Added information on using the CANCEL command in the Introduction section of Appendix D.
- Clarified the use of the CANCEL command in the AutoONP procedure (steps 7 and 16) in Appendix D.
- Corrected setting definition of variable TABXFR_LIMIT in the AutoONP, AutoONP Mock and CMMOCK procedures (Appendices D and E).

- In AutoONP and Mock AutoONP, corrected command syntax for displaying logs using LOGUTIL
- Added information on which loads automatically log the user after SWACT in the AutoONP procedure.
- Revised Important note for procedure 8, step 4 of the SWACT and POSTSWACT procedure (chapter 3), and for procedure 1, step 17 of the AutoONP procedure (Appendix D).
- Added Cancel TABXFR steps to procedure 1 of the Revert AutoONP procedure in Appendix D.
- Added CMMOCK section to Appendix E.
- Expanded table listing in Procedure 1 of Appendix F.

March 31, 1999

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 08.03 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011).

- Environmental variable AUTODUMP added to step 9 (set up environment variables) of Appendix D.
- Environmental variable AUTODUMP added to step 7 (set up environment variables) of Appendix E.
- Release number upissued to 08.03.

March 11, 1999

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 08.02 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011).

- Title page and footers modified to reflect preliminary release.
- Release number upissued to 08.02.

February 25, 1999

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 08.01 for ONP to Base03 PCLs and above, up to and including CSP11/Base12 (for example, NA011).

November 3, 1998

297-8991-303 *One Night Process Software Delivery Procedures* **Standard**

Release 07.04 for ONP to Base03 PCLs and up, including CSP10/Base11 (for example, NA010).

September 22, 1998

297-8991-303 *One Night Process Software Delivery Procedures*

Preliminary Release 07.03 for ONP to Base03 PCLs and up, including CSP10/Base11 (for example, NA010).

- The AutoONP MOP for coming from Base07 (such as NA006) and higher is included as Appendix D. Do *not* separate the AutoONP MOP from the ONP MOP because of reference to ONP DIRP/billing section.
- Under section “Site preparation procedure” in procedure “Processor tests SuperNode”, removed the step to JAM the CM while performing front-

end testing. Due to CM hardware and software evolution this action is no longer a requirement.

August 18, 1998

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

August 10, 1998

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

February 12, 1998

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

December 12, 1997

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

October 20, 1997

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

September 29, 1997

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

August 22, 1997

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

June 27, 1997

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

May 15, 1997

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

March 6, 1997

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

November 15, 1996

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

August 30, 1996

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

April 12, 1996

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

February 21, 1996

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

January 22, 1996

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

August 21, 1995

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

May 8, 1995

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

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About this document

The *One Night Process (ONP) Procedures Guide* is used to upgrade the PCL (Product CM Load) software of a DMS SuperNode switch. This document is applicable when using the One Night Process to upgrade *from* CSP06 and higher PCL loads *to* CSP06 and higher loads, *up to and including* CSP22/TL22 (Base23) PCL loads. This document supports software upgrades *to* Succession PCLs on DMS SuperNode only.

For wireline and wireless applications certain restrictions apply:

- For wireline applications this document supports software upgrades *from* a PCL built on a CSP06/Base07 and higher platform.
- For wireless applications this document supports *from* PCL loads on TL14/Base15 and higher for MTX loads and TL16/Base17 and higher for GSM loads.

ATTENTION

If the *from* side CM software level does not meet the above requirements, **do not** use this document to perform the software application. Refer to your Nortel Networks customer representative to obtain proper documentation.

This document provides procedures for upgrading the software on in-service DMS-100 Family products. The procedures support DMS SuperNode and SuperNode SE, but not NT40. This document supports software applications on both the DMS-Core Computing Module (CM) and the eXtended Architecture Core (XACORE) computing engines for DMS 100 Family Switches. This document does not support software applications on the Compact Call Agent switch or the HLR200 switch.

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

- IM 02-0520 SNODE & SNODE SE CM Upgrade Planning
- IM 04-0521 SNODE / SNSE CM Upgrade Preparations
- IM 65-5070 SNODE Combined CM CPU & Software Upgrade
- IM 65-5071 SNODE SE Combined CM CPU & Software Upgrade
- IM 65-5457 Upgrading to BRISC Series 50 Mixed Memory
- IM 35-5456 Memory Extension/Upgrade on the CM

How this document is organized

The *Introduction* chapter briefly describes how the Software Delivery One Night Process works. It also explains the use of the Methods of Procedure (MOP) sections.

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

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

Section 10 provides an overview of the Back-to-Back ONP upgrade.

Appendix A: Command Summaries provides information on using the various ONP features and commands (TABAUDIT, TABXFR, SWUPGRADE, etc.). This section contains command syntax and examples for commands used throughout the software delivery process.

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

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

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

Submitting feedback

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

1 Introduction

1.1 About the software delivery process

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

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

1.2 Using the MOP

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

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

“CM SWACT” (or “SWACT”) refers to the switch of activity between the processors in the Computing Module (CM) of the DMS-Core. Throughout this document the term “from-side” refers to the old (or current) PCL software load; and “to-side” refers to the new PCL software load.

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

2 Site preparation overview

2.1 Planning activities

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

2.1.1 Administrative

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

- Pre-application activities will include upgrading all peripherals (including remotes) to PM loads compatible with the new PCL software load. In addition, Network (ENET) and Message Switch (MS) software upgrades must be completed before the ONP.
- Offices equipped with Services Provider Equipment (for example Access Node, EDRAM, DPP, etc.) must consult the appropriate DMS Feature Planning Guides and DMS Customer Engineering documents to determine the required releases of NCL (Non-CM Load) software. Proper software and hardware compatibility is required to avoid an unsupported configuration with these products.
- If the office is equipped with TOPS-OC (Operator Centralization) refer to feature NC0152 (Host/Remote Networking by Queue Type) in the DMS Translation Guides. This feature describes the PCL software delivery strategy for TOPS-OC offices.
- In order to minimize the impact on an office Nortel Networks recommends the ONP be performed within the operating company's "maintenance window" and time of switch of activity (SWACT) to the new PCL software be scheduled to occur during low traffic periods. Specific operating company policies should be used to establish the estimated time of SWACT.
- Site personnel must provide advance notification of the software delivery application to operating company control centers, operator services, and other organizations that could be affected during the ONP.

- Offices equipped with Centralized Automatic Message Accounting (CAMA) or Local Automatic Message Accounting (LAMA) will arrange for the validation of an Automatic Message Accounting (AMA) test tape with the site billing center. Such testing may also include Station Message Detail Recording (SMDR) or Other Common Carrier (OCC). The site billing center must be informed of this requirement four weeks before the software update. This test should be performed during POSTSWACT activities (execution of Test Call Scripts). Ensure that the *AMADUMP User's Guide* (NTP 297-1001-119) is readily available.
- Offices equipped with DIRP, GCDR or SDM billing must arrange for the validation of the CDR records test tape with the site billing center. The site billing center must be informed of this requirement four weeks before the software upgrade. Perform this test during POSTSWACT activities (execution of Test Call Scripts).
- Offices equipped with DPP or BMC actively collecting billing information may arrange with the downstream processing center to poll the billing information during PRESWACT and, optionally, during POSTSWACT.
- For offices equipped with an SDM, upgrade the SDM before the ONP. Refer to the SDM Upgrade Guide (297-5051-304) for details.
- For offices equipped with an SDM and running DDMS, plan to upgrade to DDMS schema file immediately after the ONP. Refer to the DDMS and Guide, Installation and Administration Reference Manual (297-5051-914), the "Installing DDMS" chapter for information about "DDMS upgrade for CM one night process (ONP)" for details.

2.1.2 Warnings

- Allow sufficient time, 8 hours or more for the DATADUMP to run.
- TABAUDIT (or AUTOTABAUDIT) must be executed on all tables in the office prior to the ONP. Table errors must be corrected and TABAUDIT executed again on all tables to verify the corrections. Nortel requires that TABAUDIT be executed beginning at I-30 days and be completed by I-2 days with no errors on all tables (except Non-impacting failures listed in Customer Service bulletins for a particular load).

- When executing TABAUDIT on GSM HLR offices certain GHLR tables must be excluded. Due to the large number of tuples datafilled executing TABAUDIT on these tables may take a very long time to complete and cause a possible performance impact to low priority HLR work, such as provisioning and MAPCI terminals. For more information on which tables to exclude see the “TABAUDIT procedure” section.
- In order to minimize the impact of recent table changes on the ONP application, 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 execute TABAUDIT again to ensure all tables pass with no errors.
- **CAUTION:** MTX HLR offices do not support provisioning subscriber datafill during the ONP. Do not schedule this activity during the ONP window.
- Ensure no peripheral hardware or software changes, including retrofits, extensions, or maintenance activities, will be in progress during the ONP. These activities are prohibited during the software delivery application. The affected hardware must be made INB (installation busy), in both the host and remote office. Such activities would include, *but are not restricted to*, any of the following:
 - Network extensions
 - Peripheral additions or deletions
 - MSB7 to LPP cutovers
- Recently removed hardware must have all associated software removed as well. Peripheral hardware that is not in the in-service or offline state may jeopardize the software delivery application.

2.2 Pre-application activities

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

- First shipment of software media and documentation to the site
- Site polling by Nortel Networks to obtain specific switch information
- Site preparation procedures and PM update process
- TABAUDIT procedure
- Final shipment of software media and documentation to site
- Pre-loading the message switch
- Site ready checks
- Site preparation for HLR100 Mated-Pair upgrade
- Site responsibilities the day of the software delivery application

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

2.3 Cancellations or reschedules

Some circumstances may require the software delivery application 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 software media (ESD, CDROM, DVD, tape, etc) and documentation. If for any reason a software application 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 software media is necessary, the operating company must label accordingly or discard any previous shipments to ensure the most current version of software media will be used for the software application.

2.4 HLR100 Upgrade Strategy

This strategy is based on a Standalone HLR or Mated DMS100 on release NSS17 or higher upgrading to the current NSS18 release. For Mated HLRs a handover of subscribers is required to the Mate HLR (see Section 2.4.3).

2.4.1 Introduction

This section is intended as an illustration and should not be used directly when planning the upgrade strategy. The chosen process of Upgrade will vary from office to office but the factors that will help decide on the required work should include:

- Standby functionality active via Mated-Pair.
- Number of maintenance windows available.
- Acceptance testing schedule.

The following figure provides examples of upgrade scenarios determined by whether Standby is active or not.

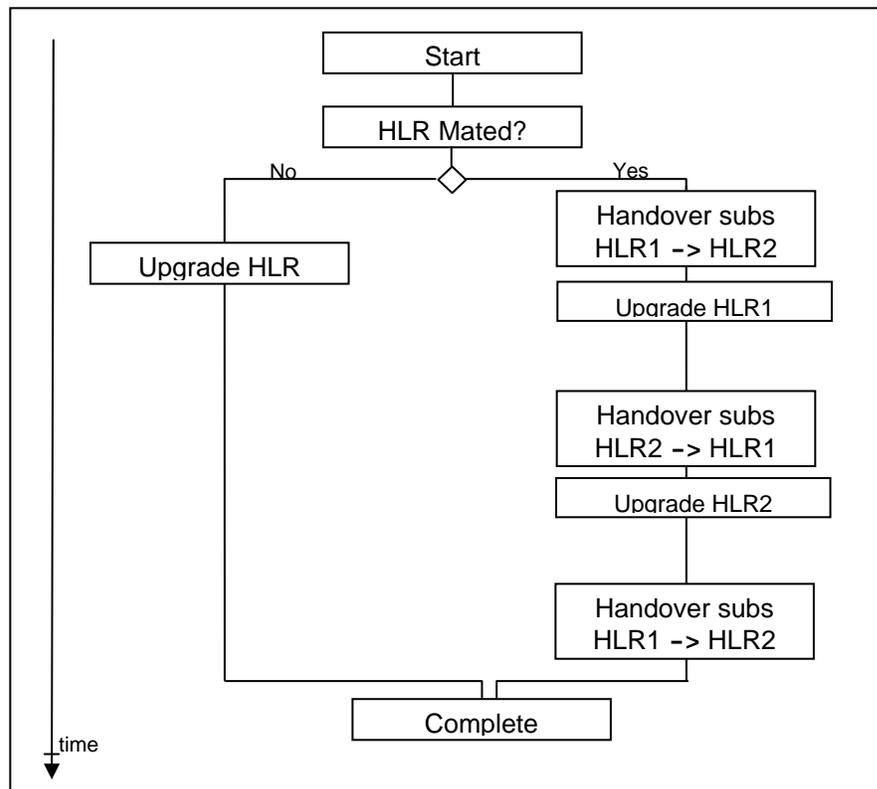


Figure 1 Possible Upgrade Scenario

2.4.2 Planning Maintenance Windows

Planning the number of maintenance windows required and when they should occur should take a number of factors into consideration. Please note, this is just a general guideline and more specific details should be discussed with Nortel's S/W Delivery planning teams.

Certain activities that affect the Upgrades can and should be completed outside of planned maintenance windows. These include but are not exclusive to:

- Handover for Mated-Pair.
- System Sanity.
- Choice of tests and IMSIs for new Critical Call Test interface (TESTSUBCI). See Appendix C: Test Call Plan.

Note: For Mated-Pair HLRs the number of maintenance windows would generally be doubled.

2.4.3 Cross Release Mating

As the HLR database is distributed from NSS17 it is necessary for the HLR to support Cross Release Mating (XRM) between Standby HLRs and maintain operations while an Upgrade occurs over several maintenance windows.

The following table shows the combinations for supported releases between HLR and Mate HLR on the HLR100. Normal operations should be able to continue while outside the maintenance window.

Note: XRM is not available for GSM16 to GSM18 Mating.

Core Release	Mate Release
GSM17	GSM17 / GSM18
GSM17	GSM17 / GSM18
GSM18	GSM17 / GSM18

Table 1 – Supported Releases between HLR and Mate HLRs

See Appendix B Supplementary Procedures Section “Procedures for HLR Mated-Pair Upgrade”.

3 Site preparation phase

Begin this section when the first shipment of software media and documentation arrive on site (shipped approximately 35 days before the ONP). In addition to this document Nortel Networks may also ship the *Peripheral Module Software Release Document*.

3.1 Site preparation procedures

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

CAUTION

Applying the following types of PRSUs within 30 days of the scheduled software application must be considered a gating issue to the ONP:

Active (ACT) PRSU applied and activated

Limited (LTD) status PRSU

Verification (VO) status PRSU

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

3.2 Procedures

3.2.1 Procedure 1 – Verify PMLOAD tapes

- 1 **Site/ACT** The operating company is encouraged to verify the new PM 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. Enter the Disk Utility level and INSERT each tape.

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

*Where <device_name> is S00T or S01T (for SLM tape).
Where <device_name> is F02UTAPE or F17UTAPE (for XACORE tape).*
 - b. LIST each tape and verify there are no errors.

```
> LF <device_name>
```

Observe the output to verify if the tape lists without error.
 - c. Eject the tape and quit the Disk utility level.

```
> ET <device_name>  
> QUIT
```
 - d. **Note:** If a tape has errors, repeat steps 1a - 1c on a different device to determine whether the tape or the device is at fault. If any problems persist, notify your Nortel Networks regional customer representative.

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

Note: If for any reason the software application requires a reshipment of software media (ESD, CDROM, DVD, tape, etc.) due to defective media, 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 software media will be used for the software application. Failure to use the most current version of software could cause problems during the ONP. Questions or concerns regarding software reshipments should be directed to your Nortel Networks regional customer representative.

3.2.2 Procedure 2 - PM loading and patching

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

ATTENTION

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

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

3.2.3 Procedure 3 – Check disk space & take image

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 disk utility assistance, contact your next level of support.

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

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

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

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

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

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

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

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

3.2.4 Procedure 4 - Route system logs

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

For CM/SLM:

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 Routing the logs to a printer device

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

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

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

3 ACT Starting the printer device

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

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

3.2.5 Procedure 5 - Processor tests – CM/SLM or XACORE

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

ATTENTION: If office is equipped with XACORE front end, begin this procedure at STEP 28.

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

- 2 **ACT** Match the memory from the Memory level of the MAP.
> MAPCI ;MTC ;CM ;MEMORY ;MATCH ALL
> QUIT

- 3 **ACT** Drop SYNC from the CM level of the MAP.
> DPSYNC
> YES {for confirmation}

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

- 5 Test the CM stability with each of the following restarts on the *Inactive Reset Terminal* ONLY.
 - a. **INACT** RTIF> \RESTART WARM
RTIF> YES {for confirmation}
Wait for a flashing A1.
 - b. **INACT** RTIF> \RESTART COLD
RTIF> YES {for confirmation}
Wait for a flashing A1.
 - c. **INACT** RTIF> \RESTART RELOAD
RTIF> YES {for confirmation}
Wait for a flashing A1.

- 6 **ACT** Test the memory cards from the Memory level of the MAP.
> MEMORY ;TST ALL LONG
This test will take up to 15 minutes to test each memory card.
> YES {for confirmation}
> QUIT

—continued—

Procedure 5
Processor tests SuperNode CM/SLM (continued)

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

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

> SYNC

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

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

> SWACT

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

12 Verify the CPUs remain in SYNC.

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

> MEMORY ;MATCH ALL

> QUIT

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

> REXTST FULL

> YES

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

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

> QUERYCM REXRESULT

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

—continued—

Procedure 5
Processor tests SuperNode CM/SLM (continued)

- 16 ACT** Perform an image test from the CMMNT level of the MAP.
- > CMMNT
 - > IMAGE
 - > YES {for confirmation}
The switch will be out of sync for approximately 10 minutes. A reload restart will be performed on the Inactive CPU.
 - > QUIT
-
- 17** After completion of the test, check for CM logs indicating pass or fail message. If test failed, clear the problem and repeat step 16.
-
- 18 ACT** Busy the Slave MS from the MS level of the MAP.
- > MS;BSY <x>
Where <x> refers to the Slave MS (look under Clock field).
-
- 19 ACT** Test the MS from the MS level.
- > TST <x>
-
- 20** After completion of the test the results of the test are displayed. If the test failed, resolve any problems and repeat the previous step.
-
- 21 ACT** Return the busied MS to service.
- > RTS <x>
-
- 22** Wait 5 minutes to ensure the clocks are stable and to allow the hardware audit to run. Both MS should be inservice.
-
- 23 ACT** Switch MS clock mastership.
- > SWMAST
-
- 24** Wait an additional 10 minutes to allow MS clocks to completely stabilize.
-

—continued—

Procedure 5
Processor tests SuperNode CM/SLM (continued)

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

26 **ACT** After testing the MS, quit to the CI level.

> QUIT ALL

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

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

ATTENTION: Complete steps 28 through 42 ONLY if office is equipped with XACORE front end.

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

> MAPCI ;MTC ;XAC ;SM

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

> XACMTC
> REXTST RUN FULL
> QUIT ALL

30 **ACT** REX test results will be displayed on the MAP.

Complete diagnostics are available in the XAC415 log.

> LOGUTIL
> OPEN XAC 415
> QUIT

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

> SM

Wait for Shared Memory to SYNC.

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

—continued—

Procedure 5
Processor tests SuperNode XACORE (continued)

32 ACT Test each core element through the following procedures.

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

```
> SM
> BSY <slot> <side> 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 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>
> RTS <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.

```
> QUIT ALL
```

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

CAUTION: Use of the FORCE command may cause volumes to go INERROR. If this occurs clear the condition with RSETVOL command under DIRP level. For more information refer to "Recovering volumes marked INERROR" in the appropriate Recovery Procedures for the product CM load.

—continued—

Procedure 5
Processor tests SuperNode XACORE (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 inservice.

38 ACT Switch MS clock mastership.

> SWMAST

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

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

41 ACT After testing the MS, quit to the CI level.

> QUIT ALL

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

3.2.6 Procedure 6 - Clean up SFDEV

The storefile device (SFDEV) should be cleaned up in order to maximize space for ONP work. This activity involves copying any important files and PRSU (patch) files to a disk storage device and erasing any non-essential files. Important operating company or site-created files can be copied to a back-up tape and manually restored to SFDEV after the ONP is complete.

ATTENTION

DO NOT erase PRSU or process files specifically for the ONP.
Any PRSU (patch) or process files that were downloaded to SFDEV must remain there for the ONP. Do not erase these files.

- 1 **Site/ACT** Clean up SFDEV to maximize space for ONP work.
 - a. Review the contents of SFDEV and copy all PRSU files to a disk storage device. Other important files can be copied to disk also or to a back-up tape.

```
> LISTSF ALL
```

Note: PRSU files end with '\$PATCH'

```
> DISKUT
> COPY <file_name> <volume_name>
```

Where <file_name> is the PRSU or file and <volume_name> is the name of the disk volume.

Note: PRSU files are located on a device in table PADNDEV.
 - b. Erase all the non-essential files in SFDEV using the following command:

```
> ERASESF <file_name>
```

Where <file_name> is the non-essential file.

Repeat this command for each file.

IMPORTANT: DO NOT erase any PRSU or process file that was downloaded to SFDEV specifically for the ONP. For assistance identifying any of these files contact your Nortel Networks S/W Delivery representative.

```
> QUIT ALL
```
-

3.2.7 Procedure 7 - Verify table OCGRP in TOPS offices

In TOPS offices the information in table OCGRP (Operator Centralization Group) must be verified.

ATTENTION: *This procedure is not applicable to wireless offices.*

- 1 **Site** Table OCGRP 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 appropriate DMS-100 TOPS Translations Guide NTP for datafilling field BCSLEVEL in table OCGRP.

Before attempting a software application, table OCGRP must have the correct value in field BCSLEVEL or TABXFR failures may result. These failures are due to the 3 BCS OC Compatibility rules.

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

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

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

—continued—

Procedure 7
Verify table OCGRP in TOPS offices (continued)

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

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

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

WARNING

Ensure the value of field BCSLEVEL is not set greater than the BCS level of the connected office (the office connected by this tuple). Service degradation will result if this field is incorrectly set in either office.

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(s). The BCSLEVEL field in table OCGRP must be kept current with changes in the network because it defines the OC messaging format used between the two connecting offices.

3.2.8 Procedure 8 - Table ACDGRP

ATTENTION: *This procedure is not applicable to wireless offices.*

- 1 **Site/ACT** Find all the "holes" in table ACDGRP and fill them with dummy tuples as follows. Otherwise, you may be unable to retrieve MIS reports from some ACDGRPs.
 - a. > OMSHOW ACDGRP ACTIVE
 - b. Look for nonconsecutive keys
(Example: 0 2 3 5 6 has 1 and 4 missing.)
 - c. For any missing tuples, have translation personnel datafill dummy tuples in the key indexes. (This prevents wrong renumbering during the software update.)
 - d. Also provide datafill in table DNROUTE for each corresponding dummy tuple added in table ACDGRP.
-

3.2.9 Procedure 9 - Fill in Test Call Scripts

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

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

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

3.2.10 Procedure 10 - Site Ready DMS-resident maintenance tool

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

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

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

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

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

```
> SWUPGRADE READY
```

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

- c. Begin the SWUPGRADE 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 10
Site Ready DMS-resident maintenance tool (continued)

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

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

Recommended settings is the default logs.

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

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

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

Recommended settings is the to CM load number.

Value: <2 digit number>

eg1: 15 - for LEC00015, LET00015, LLT00015, etc.

eg2: 17 - for LEC00017, LET00017, LLT00017, etc.

Variable: **PM_VERIFY_FILE** [NONE]

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

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

Value: <file name> - or NONE

eg1: PMCHECK15 - validates PM loads for CSP15.

eg2: PMCHECK17 - validates PM loads for CSP17.

—continued—

Procedure 10
Site Ready DMS-resident maintenance tool (continued)Variable: **PRINTER** [SINK]

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

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

Value: <printer name> or SINK

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

eg1: LP021 - Record from the trace device onto LP021.

eg2: SINK - Do NOT record.

Variable: **PAUSE_ENABLED** [YES]

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

Recommended settings is the default: YES.

Value: <yes> - or NO.

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

Examples:

```
> SET TRACE_DEVICE MAP
> SET PAUSE_ENABLED YES
> SET LOGS `TRAP SWERR`
```

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

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

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

—continued—

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

- d. When all environment variables have been input, execute the SWUPGRADE READY steps.

> GO

Notes:

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

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

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

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

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

```
> DISP STEPS
```

The SWUPGRADE READY process can be terminated at any time using the CANCEL command.

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

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

```
> HELP <step_name>
```

- e. When all steps complete, enter GO to complete the READY process.

```
> GO
```

- f. Exit the SWUPGRADE increment.

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

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

—continued—

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

ATTENTION: Perform step 2 only if the current PCL is CSP07 and lower, or if SWUPGRADE failed to enter the READY platform because another SWUPGRADE platform is in use.

- 2 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 BCSUPDATE increment.
> BCSUPDATE
 - c. RESET the program steps to "NEEDED" status.
> RESET
> YES {for confirmation}
 - d. Execute the BCSUPDATE PRECHECK steps.
> PRECHECK

Notes:

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

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

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

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

When 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 all steps complete, exit the BCSUPDATE increment.
> QUIT {exits BCSUPDATE}
-

3.2.11 Procedure 11 - Minimize outages during Mated-Pair upgrade

ATTENTION: This procedure applies to HLR Mated-Pair Upgrade only.

IMPORTANT: Please record whether this step has been performed for future reference because this information will be required to decide whether to perform additional steps later in the upgrade procedure.

This procedure should be performed if:

- The HLR will be upgraded as part of a Mated-Pair configuration.
- Provisioning Gateway functionality is supported.
- The operator wishes to minimize the following outages:
 - provisioning outages during HLR upgrade
 - full outage during SWACT of the XACORE

This procedure should not be performed until 3 days before the upgrade is scheduled to start.

If Provisioning Gateway is not supported then this procedure should NOT be performed unless recommended by Nortel Support.

- 1 **Site** Refer to Appendix B Supplementary Procedures Section "Procedures for HLR Mated-Pair Upgrade" and perform the following procedure:

- Minimize outages during Mated-Pair upgrade. (Section 12.11.1)

IMPORTANT: If this procedure is performed prior to the HLR upgrade then procedure "Restore the original subscriber Acting configuration" (Section 12.11.3) must be performed after the HLR upgrade is completed.

4 TABAUDIT procedure

Begin this procedure **30 calendar days** before the software delivery application date. TABAUDIT (Table Audit) is a tool used during ONP site preparation to verify table data integrity. It is intended to eliminate the errors found during the table transfer (TABXFR) phase of the ONP and ensure a successful software upgrade. Reports are produced for generic table checks, syntax checks, and table-specific data checks including routing checks. TABAUDIT is available for all tables and is executed on the Active side with the switch in sync. Nortel Global 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. A manual TABAUDIT session, when executed, will occupy the terminal device until completed. Using AUTOTABAUDIT to run a scheduled TABAUDIT on all tables is preferred because it will not occupy the user's terminal. The total time to complete a scheduled TABAUDIT session will vary depending on the number and size of all office tables. It may be necessary to schedule multiple sessions in order to verify all tables in the office.

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

Note: This procedure does not use all of the AUTOTABAUDIT options available to the user. Additional information can be obtained by using the help command to generate a list of all the commands in the TABAUDIT or AUTOTABAUDIT directory. Refer to section "Using TABAUDIT and AUTOTABAUDIT" in Appendix A of this document for more information on TABAUDIT (including TABAUDIT Enhancement feature AR1917 if upgrading from Base08 and higher). Feature AR1917 improves the automated TABAUDIT scheduling capabilities, timeframe specification, and user interface.

4.1 Procedures

4.1.1 Procedure 1 – Special instructions for GSM HLR offices

When executing TABAUDIT on GSM HLR offices certain GHLR tables must be excluded. Due to the large number of tuples datafilled executing TABAUDIT on these tables may take a very long time to complete and cause a possible performance impact to low priority HLR work, such as provisioning and MAPCI terminals. When executing TABAUDIT on GSM HLR offices exclude the following tables:

- GHLRAUTH
- GHLRBSVC
- GHLRCAML
- GHLRCLIN
- GHLRCUG
- GHLRDATA
- GHLRDCSI
- GHLREA
- GHLRGCSI
- GHLRGPRS
- GHLRLCS
- GHLRMCSI
- GHLROTDP
- GHLRPS1
- GHLRPS2
- GHLRSCSI
- GHLRSSOP
- GHLRTTDP
- GHLRUCSI
- GHLRVGS
- GHSMSCSI

TABAUDIT on the tables listed above can be executed during regular scheduled maintenance outside of the ONP window per specific operating company maintenance routines.

Verification of data stored in these tables is provided by the “Findcorruption” feature in the HLRAUDIT tool. If the audit finds a corruption it generates the GHLR 669 log and raises the HLRCpn alarm. If this alarm is raised please contact your next level of Nortel product support. Findcorruption can also be invoked manually from the HDBTOOLS CI level.

4.1.2 Procedure 2 - 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.
- For wireless applications on HLR offices, AUTOTABAUDIT should be scheduled to execute during the "off-hours" in order to avoid delays with subscriber provisioning.

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 2
Using AUTOTABAUDIT to run TABAUDIT (continued)

1 Site/ACT Set-up for AUTOTABAUDIT.

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

```
CI :  
> TABAUDIT  
  
TABAUDIT :  
> AUTO  
  
AUTOTABAUDIT :
```

- b.** Clear the *included* list of tables.

```
AUTOTABAUDIT :  
> CLEAR INCLUDED
```

- c.** Clear the *scheduled* list of timeframes.

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

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

- d.** Define the list of tables to be included.

```
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.

- e. For GSM HLR offices only:** Certain GHLR tables must be excluded otherwise TABAUDIT may take an extremely long time to complete. If office is GSM HLR see section "Special instructions for GSM HLR offices" and exclude all tables listed.

```
AUTOTABAUDIT :  
> EXCLUDE <table>  
Repeat command for each GHLR table
```

—continued—

Procedure 2 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. The AUTOTABAUDIT session should be scheduled to start after completion of AUTOIMAGE and to stop before the next AUTOIMAGE is scheduled to begin (see table IMGSCHEd).

Note: The timeframe options 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

AUTOTABAUDIT:

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

or

```
> TIMEFRAME DAILY <start time> <stop time>
```

or

```
> TIMEFRAME WEEKLY <start time> {MON|TUE|WED|
    THU|FRI|SAT|SUN} <stop time> {MON|TUE|WED|
    THU|FRI|SAT|SUN}
```

or

```
> TIMEFRAME MONTHLY <start time> <day of month> <stop
    time> <day of month>
```

Example:

```
> TIMEFRAME SINGLE 23:30 2005:05:27 03:30 2005:05:28
```

<i>Where</i>	<i>23:30</i>	<i>is</i>	<i>start time</i>	<i>(hr/min)</i>
	<i>2005:05:27</i>	<i>is</i>	<i>start date</i>	<i>(yyyy/mm/dd)</i>
	<i>03:30</i>	<i>is</i>	<i>stop time</i>	<i>(hr/min)</i>
	<i>2005:05:28</i>	<i>is</i>	<i>stop date</i>	<i>(yyyy/mm/dd)</i>

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 2
Using AUTOTABAUDIT to run TABAUDIT (continued)

Example timeframe for AUTOTABAUDIT

```

                Start time   Start date   Stop time   Stop date
                |           |           |           |
> TIMEFRAME SINGLE 23:30 2005:05:27 03:30 2005:05:28

Is the following schedule correct?

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

Start date: 2005/05/27
Stop date: 2005/05/28

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

> Y
```

3 Site/ACT Verify the scheduled AUTOTABAUDIT session parameters.

```
AUTOTABAUDIT:
> STATUS
This displays the current AUTOTABAUDIT session parameters.
```

4 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 2
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     |
|-----|-----|-----|-----|
| 2005/05/27 2005/05/28   | 23:30      03:30   |
|-----|-----|-----|-----|

Current time                : 2005/05/26 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 2
Using AUTOTABAUDIT to run TABAUDIT (continued)

- 5 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 4 above or to schedule multiple sessions in order to verify all tables in the office.

- 6 Site/ACT** After AUTOTABAUDIT completes, obtain an error report.

```
AUTOTABAUDIT :  
> REPORT ERRORS
```

Note: The REPORT command is used to generate data integrity reports based upon specified options. To see the options type HELP REPORT or refer to the TABAUDIT and AUTOTABAUDIT section in Appendix A.

ATTENTION

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

- 7 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 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 2
Using AUTOTABAUDIT to run TABAUDIT (continued)

- 8 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 1 through 4 above or to execute TABAUDIT perform the following steps.

- a. > TABAUDIT
- b. TABAUDIT :
> INCLUDE <table_name>
Where <table_name> is a changed or corrected table.
- c. TABAUDIT :
> EXECUTE
- d. TABAUDIT :
> REPORT <table_name>
- e. Repeat substep b and c for all tables that were changed or corrected.

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

Nortel recommends using TABAUDIT as part of normal maintenance practices for regular ongoing table data integrity checks. This can be accomplished by using the automatic scheduling function. For assistance with TABAUDIT please contact your Nortel regional representative.

5 Restore CM and MS load files

Complete this section when the final shipment of software media 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 software will be used for the software delivery application. Failure to use the most current version of software may cause problems during the software upgrade. Questions or concerns regarding s/w media reshipments should be directed to your Nortel regional customer representative.

Nortel Networks ships two "PCL Final Load" tapes (primary and backup) to the site seven days before the ONP. Each tape contains two files: the "patched current" Message Switch (MS) load file and the "no-data" CM load file. In some markets this tape may contain ISN prsu (patch) files.

In this section *procedure 1* will be used to restore the CM and MS load files to a disk volume. If not already done, *procedure 2* can be used to pre-load the Message Switch with the MS load file. The no-data CM load file is used to load the Inactive side of the DMS-Core during the ONP.

CAUTION

The operating company must ensure there is sufficient disk space for an office image.

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

5.1 Procedures

5.1.1 Procedure 1 - Restore CM and MS load files

- 1 **Site** Select an "Image" disk volume onto which to restore the CM and MS load files. Use the following guidelines to select the disk volume:
 - The volume should *not* be on the same disk volume with active DIRP billing.
 - At the start of the AutoONP procedure, site personnel will be asked to provide which disk volume was used to restore the CM and MS load files.

Note: If the final PCL file was delivered by ESD (Electronic Software Delivery) do not perform this procedure. Load files delivered by ESD must be transferred to the DMS Core using FTP methods (see section "Electronic Software Delivery" in Appendix B).

- 2 **Site/ACT** List the PCL Final Load 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.

```
> QUIT ALL
> DISKUT
```
 - c. INSERT the tape.

```
> IT <tape_device>
Where <tape_device> is S00T or S01T (for CM/SLM tape)
or
Where <tape_device> is F02UTAPE or F17UTAPE (for XACORE
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 again.

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 (F02UTAPE or F17UTAPE) and <volume_name> is
the name of the disk volume.*

- 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 no-data CM load file to be restored onto disk, a back-up procedure is available which will allow the Inactive (mate) CM to be loaded "direct from tape." This back-up procedure will take longer to complete than if loadmate is completed direct from disk.

5.1.2 Procedure 2 - Pre-load Message Switch

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

Note: If scheduled for a "same to same" PCL application (for example: SN000009 to SN000009) the operating company may choose not to pre-load the Message Switch as long as the present MS load has been maintained patch-current.

Note: If preparing for a "Back-to-Back ONP" and if the new MS load is 4 or more CSP levels greater than the current CM load PRSU SEA87 must be applied and activated in destination CM prior to loading the MS. Failure to activate SEA87 will not allow the MS to Return to Service.

CAUTION

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

1 Site/ACT Ensure the MS is in-service with no faults before starting this procedure.

- a. > QUIT ALL
- > MAPCI ; MTC ; MS ; SHELF

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.

- b. > QUIT ALL

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. > QUIT

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

—continued—

Procedure 2
Pre-load Message Switch (continued)

- 3 Determine if the new MS load from step 2 is 4 or more CSP levels greater than the current CM load. To determine the CSP level of the current CM load type:

> IMAGENAME

Note: The CSP level is equivalent to the TL layer

ATTENTION: If the MS load is 3 or less CSP levels than the current CM load skip forward to step 4.

If preparing for a Back-to-Back ONP and if the new MS load is 4 or more CSP levels greater than the current CM load perform the following sub steps to ensure PRSU SEA87 is applied and activated in destination CM.

- a. Display the status of PRSU SEA87.

> PRSM;REPORT PRSU SEA87

Note: The ST (status) field should equal A (applied) and the A (active) field should equal Y (yes). If response indicates "no entry found" the PRSU is not applied.

- b. If the PRSU is not applied DO NOT attempt to load the MS. Contact Nortel Networks to request the appropriate version of PRSU SEA87, apply the PRSU to destination CM, and begin this procedure at step 1.

- c. If the PRSU is applied but not activated perform the following:

> ASSIGN ACTIVE Y IN PRSUSET <prsu_name>
Where <prsu_name> is the name of the PRSU

Note: Activation of this PRSU does not require a password.

- d. Exit the PRSM utility

> QUIT

CAUTION**The MS will not Return to Service**

The MS will not Return to Service with a load that is 4 or more CSP levels greater than the current CM load unless PRSU SEA87 is applied and activated in destination CM.

—continued—

Procedure 2
Pre-load Message Switch (continued)

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

> MAPCI ;MTC ;MS

- 5 Busy the MS with the SLAVE clock.

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

- 6 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.

- 7 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. If the OOS test fails, determine the cause of failure, fix the fault(s), and repeat the TST command.

CAUTION

Do not proceed unless NO faults are reported.

Replace faulty cards if necessary, and repeat the test. If the test fails repeatedly contact your next level of support.

- 8 Return the MS to service.

> RTS <ms#> {not OOBAND!}

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

—continued—

Procedure 2
Pre-load Message Switch (continued)

10 Switch MS clock mastership.

> SWMAST

11 Monitor MS logs for at least 10 minutes to ensure stability.

12 Repeat steps 5 through 11 to update the MS load on the other unit.

13 QUIT out of the MAP level.

> QUIT MAPCI

6 Site responsibilities the day of the software delivery

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

6.1 Procedures

6.1.1 Procedure 1 - Day zero checklist

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

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

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

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

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

 - 6 Nortel Networks may download PRSU files (patches) for the new PCL or special process files for the ONP. Do not erase these necessary files.

 - 7 Check for a **SOC file** "<cli>_SCF" or "<cli>\$SCF" in SFDEV (or download device). If a SOC file is present, copy the file to a disk drive (or tape). This step does not apply to Wireless customers.

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

—continued—

Procedure 1
Day zero checklist (continued)

- 8** Verify SFDEV is cleared of all unnecessary files. This is to clear storefile space for ONP work.
-
- 9** Ensure no peripheral hardware or software changes, including retrofits, extensions or maintenance activities, will be in progress during the ONP. Any affected hardware must be made INB (installation busy), in both the host and remote offices.
- Note:** Recently removed hardware must have all associate software removed as well. Peripheral hardware that is not in the in-service or offline state may jeopardize the ONP.
-
- 10** For offices equipped with SDM, ensure the SuperNode Billing Application (SBA) is not undergoing back-up or recovery. The SBA system must be operating in normal mode during the ONP. If necessary, refer to the appropriate SDM Alarm Clearing and Performance Monitoring Procedures Reference Manual for alarm clearing procedures.
-

6.1.2 Procedure 2 - Run DATADUMP

Prior to the ONP an office DATADUMP is required to collect a hard copy of the current software load. This information should be kept in case it is needed for future reference.

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 and keep this information for future reference.

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

> LEAVE

b. > RECORD START ONTO <printer>

c. > BCSUPDATE;DATADUMP

When the DATADUMP is completed:

> QUIT

d. > RECORD STOP ONTO <printer>

6.1.3 Procedure 3 – Remote Site Access

At the established ONP start time the operating company is responsible for providing remote site access to the Applicator. If not provided to Nortel Networks in advance, be prepared to furnish all of the necessary information for this task.

- 1 **Site** Ensure there will be uninterrupted communication with the Applicator during the ONP. The following requirements are necessary for remote site access:
 - Two site connections are required for the ONP— one connection is used for the Active terminal (controlling the AutoONP procedure) and the other is used for the Trace device (tracing AutoONP events). Nortel Networks recommends one site connection reside on IOC 0 (or IOM 0) and the other on IOC 1 (or IOM 1).
 - One reliable voice number is required for the ONP.
 - Two usernames and passwords are required 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.

Note: Nortel Networks recommends using Foreign Exchange (FX) voice and data lines for Applicator remote site access.

- 2 **Important note about site connections:** Remote site access for ONP applications is supported using direct connection modem devices and/or telnet connections. When available direct dial-ups into the office is the preferred site access method. If operating company policy requires access to be via the various security dial-up configurations such as “datakits” or “defender modems” then all of the required information (pin #, passcodes, destinations, etc.) must be provided to the Applicator at the start of the ONP. If site access is via telnet connections the operating company must provide the connection information (destination IP addresses, token codes, etc.) and instructions for gaining remote connectivity to the corporate network and to the site.
-

CAUTION

Failure to provide working and reliable remote site access connections may cause problems during the ONP. Failure to provide two site connections will jeopardize the application.

6.1.4 Procedure 4 - Network management control

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

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

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

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

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

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

6.1.5 Procedure 5 - Preserving logs over ONP

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

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

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

```
> LOGUTIL
> LISTREPS SPECIAL
> QUIT
```

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

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

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

```
> RWOK ON
> POS <log_name>
> CHA <threshold or suppress> <value or Y>
> YES {for confirmation}
```

Repeat for all intended tuple changes, then

```
> QUIT
```

7 AutoONP procedure

7.1 General

This procedure supports software upgrades on both the DMS-Core Computing Module (CM) *and* the eXtended Architecture Core (XA-Core) computing engines for DMS 100 Family Switches, including SuperNode SE. This procedure does not support upgrades on the Compact Call Agent switch or the HLR200 switch.

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

For wireline applications AutoONP is supported if the from-side CM software level is CSP06/Base07 and higher. AutoONP is supported in STP offices if the from side CM software level is CSP07/Base08 (STP4.0) and higher. For wireless applications AutoONP is supported from TL14/Base15 and higher for MTX and from TL16/Base17 and higher for GSM.

Note: References to CSP (Communications Software Platform) are equivalent to TL (Telecom Layer).

CAUTION

If the from side CM software level is not at least CSP06/Base07 or higher (TL14/Base15 or higher for MTX and TL16/Base17 or higher for GSM), DO NOT use this document to perform the software upgrade. Refer to your Nortel Networks customer representative to obtain proper documentation to perform the software upgrade.

The SWUPGRADE increment is used to perform the AutoONP and maintains a list of steps to execute. A driver process executes the steps in sequence. It receives messages from the CI to continue execution (GO, CONTINUE or RESUME) or to execute a specific step (RUNSTEP). Whenever a step fails or requires user response, the process stops, the user responds to the problem and then types "GO" to continue until all steps have been executed. In order to allow the process to handle configuration data (such as the name of the trace device, image to loadmate from, etc.), a set of environment variables are maintained to store this data. Environment variables are defined in the SETUP_ENV_VARS step and their values are required by the steps executed on the Active or Inactive side CM.

7.2 Special features

How to insert/delete/modify steps

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

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

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

OVERRIDE will override the execution of a step.

The **PAUSE** command is used to pause the process.

Use of the BULLETINS file

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

CAUTION

The BULLETINS file is a critical file that must be located in SFDEV for execution during the AutoONP.

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

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

Step **READ_BULLETINS** will read (that is, execute) the BULLETINS file during the AutoONP.

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

Using the CANCEL command

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

Getting help on AutoONP steps

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

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

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

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

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

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

7.3 AutoONP procedure

7.3.1 Procedure 1 – AutoONP procedure steps

Begin this procedure at the established ONP start time. Refer to the Software Delivery Site Ready reports or Customer Representative to verify start time.

ATTENTION

If the from side CM software level is not at least CSP06/Base07 or higher (TL14/Base15 or higher for MTX and TL16/Base17 or higher for GSM), DO NOT use this document to perform the software upgrade. Refer to your Nortel Networks customer representative to obtain proper documentation to perform the software upgrade.

IMPORTANT: Some steps or commands are valid only for certain CSP loads. For example, “CSP07-09” means the step or command is valid from CSP07 through CSP09 and “CSP10->” means valid from CSP10 and higher.

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

- 1 **Site and App** Contact the control center (if required) and the site on the voice phone and establish two site connections.

Note: The AutoONP requires two login devices: “ACT_terminal” (ACTIVE side) and “Trace_device” (INACTIVE side). If site access is via modem connection verify one dial-up port is on IOC 0 (or IOM 0) and the other is on IOC 1 (or IOM 1). If telnet connections are used and if available, IP addresses to IOC/IOM ports should be used.

-
- 2 **App/ACT** On the terminal device designated “ACT_terminal” login and, if applicable, set LOGINCONTROL:

- a. <break>

?LOGIN

{system response}

Enter username and password

> <username> <password>

or > <username>

> <password>

—continued—

Procedure 1
AutoONP procedure steps (continued)

- b. Obtain the IOC/IOM device and user information as follows:
- > **bcsupdate;device**
 - > **quit**
- or if site access is via telnet connection:
- > **quser**
- c. The site is responsible for providing *users* and *devices* with properties sufficient to perform the AutoONP. The following are recommended settings for each user/device.
- *User Priority* is 4
 - *User Stack Size* is at least 10000
 - *User Privilege Class* is ALL
 - *ComClass* is ALL
 - *OpenForceout* is N. If not, note original status and enter:
 - > **logincontrol <device> openforceout false**
 - *MaxIdleTime* is Forever. If not, note original status and enter:
 - > **logincontrol <device> maxidletime forever**
- d. At the second terminal device designated as the "Trace_device" repeat substeps a, b and c (above).
- e. At the Trace_device make a note of the device name.
- Note:** When necessary, the Trace_device will be used to login on the Inactive side load and make data changes. In order to login on the INACT side, you will need to know the Trace_device name.
- f. Since SWUPGRADE displays messages on the Trace_device, it is necessary to sleep the Active prompt on the Trace_device in order to more clearly observe the output messages. On the Trace_device enter the following command:
- > **sleep 240 mins**
- g. On the "ACT_terminal" check system logs to verify processor stability. Use LOGCHECK or open logs manually (TRAP, INIT, SWER, CM or XAC, SLM, MM, and CMSM).
- > **bcsupdate;logcheck**
 - > **quit**
- Investigate any log that indicates an office stability problem and if necessary, contact your next level of support. Do not continue if any log indicates an office stability problem.

—continued—

Procedure 1
AutoONP procedure steps (continued)

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

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

```
> table padndev;list all
> quit
```

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

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

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

At CI:

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

> remlogout

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

> remlogout
```

CAUTION

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

—continued—

Procedure 1
AutoONP procedure steps (continued)

- 5 Locate the no-data CM load file (either tape or disk volume).

ATTENTION

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

For SuperNode CM/SLM:

- a. If loadmating from SLM disk, list the files on the SLM disk volume with the no-data CM load file.

IMPORTANT: Ensure the no-data CM load file is on the Inactive side CM/SLM.

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

Make note of the name of the no-data CM load file and volume for later use in environment variable LDMATE_IMAGE.

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

```
> sbf <volume> <filename_cm> cm <entry#>
Where <volume> is the SLM disk volume with the CM load file.
<filename_cm> is the no-data CM load filename.
<entry#> is the next available entry in ITOC, or 9.
```

Examples:

```
> sbf S00DIMAGE LET000017_CM cm 9
> sbf S01DIMAGE SN000009_CM cm 9
```

- c. If loadmating from SLM tape, place the tape cartridge with the no-data CM load file into the Inactive side CM/SLM.

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

—continued—

Procedure 1
AutoONP procedure steps (continued)

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

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

Use the following commands to identify any open files:

```
> diskut  
> lv  
> quit
```

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

To locate and rotate active billing files:

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

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

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

For SuperNode XA-Core:

- f. If loadmating from XACORE disk, list the files on the disk volume with the no-data CM load file.

```
> diskut  
> lv {lists all volumes on F02L and F17L}  
> If F02L<volume> {or F17L<volume>}  
Where <volume> is the volume with the no-data CM load file.
```

Make note of the name of the no-data CM load file and volume for later use in environment variable LDMATE_IMAGE

- g. If loadmating from XACORE tape, place the tape cartridge with the no-data CM load file into a tape drive device. Make note of the tape drive device (F02UTAPE or F17UTAPE) for use in environment variable LDMATE_IMAGE.

—continued—

Procedure 1
AutoONP procedure steps (continued)

- 6 **HLR Mated-Pair Upgrade only:** Ensure Mated-Pair synchronization is turned off. During the upgrade the HLR is unable to send or respond to Mated-Pair requests so Mated-Pair synchronization and subscriber handover must be turned off. Refer to Appendix B Section 12.11 "Procedures for HLR Mated-Pair Upgrade" and perform procedure:
- Turn Mated-Pair SYNC off (Section 12.11.6)
-
- 7 Enter the SWUPGRADE increment.
- a. If office is SuperNode CM/SLM, initialize the CM platform. Type the following on the ACT_terminal:

```
> swupgrade cm
```

or
 - b. If office is SuperNode XA-Core, initialize the XAC platform. Type the following on the ACT_terminal:

```
> swupgrade xac
```
 - c. Press <return> twice to display the current office header message. Make note of the header message for use in environment variable: INACT_LOGMSG.
-
- 8 Obtain a list of available CI commands. Type *HELP* to list all of the commands. For any command listed type *HELP <command>* to get a description of the command.
- IMPORTANT:** Notice the correct use of the CANCEL command to terminate (abort) the AutoONP:
1. If the old software load is still active, type CANCEL on the Active side to abort the CM upgrade process.
 2. To revert or SWACT back to CSP07 (and higher) software loads, type CANCEL on the new load.
 3. To revert or SWACT back to CSP06 software loads, do not use the CANCEL command on the new load. Instead manual steps must be performed (refer to the "Revert and Abort procedures" section).
-
- 9 Start the SWUPGRADE process.
- ```
> start
```
- Note:** The START command is used to start the driver process. When the process is paused use GO, RESUME or CONTINUE to re-start the driver.
- 

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

**10** Set up the environment variables.

Step: SETUP\_ENV\_VARS

Step SETUP\_ENV\_VARS prompts the user for values and sets the environment variables necessary to perform the SWUPGRADE. Enter the requested values on the ACT\_terminal.

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

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

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

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

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

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

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

Variable: **TRACE\_DEVICE** [there is no default]

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

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

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

***Note:*** Be certain the Trace\_device name is entered correctly. When entered you should see a message "*This device is selected for TRACEing*" appear on the Trace\_device display.

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

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

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

**Recommended setting is the device you are logged onto.**

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

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

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

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

Value: <printer name> or SINK

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

eg1: LP021 - Record from the trace device onto LP021.

eg2: SINK - Do NOT record.

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

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

**Recommended settings is the default: logs TRAP SWERR CM CMSM MS NET ENET (for CM/SLM) or logs TRAP SWERR XAC MS NET ENET (for XACORE).**

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

eg1: CM - Checks for cm logs and displays a message if cm logs are recorded.

eg2: TRAP SWERR – Checks for traps and swerrs on and displays a message if traps or swerrs are recorded.

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

Variable (CM/SLM): **INACT\_CM**

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

Value: <cm number> - 0 or 1

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Variable: **INACT\_LOGMSG**

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

When requested to enter the value for the office header message, type the header message exactly as it was noted above (step 6c) **except** update the new job order number, software level, and current date.

*Example:*

```
*** H12345 Office_Name SN000009 01SEP2005 ***
```

Value: <log msg> - a character string

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

Variable: **LDMATE\_IMAGE** [default is TAPE 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 (XACORE).

**If loadmating from CM/SLM disk:**

**Note:** Locate the disk volume with the no-data CM load file and verify the boot pointer was set (refer to step 5 above).

**IMPORTANT:** Ensure the no-data 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 no-data CM load filename, and <method> is the method to loadmate. Options are either DIRECT or VIAMS (Direct is the preferred method).*

*Example:*

```
S01DIMAGE SN000008_CM DIRECT - Loads CM load file
SN000008_CM from device S01DIMAGE using the DIRECT method.
```

**If loadmating from CM/SLM tape:**

Value: <device>

*Where <device> is TAPE.*

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

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)****If loadmating from XACORE disk:**

Locate the disk volume with the no-data CM load file (see step 5).

Value: <volume\_name> <filename\_cm>

*Where <volume\_name> is the XACORE disk volume and <filename\_cm> is the no-data CM load filename.*

Example:

F02LIMAGE SN000009\_CM - Loads CM load file SN000009\_CM from disk volume F02LIMAGE.

**If loadmating from XACORE tape:**

Value: <device>

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

Example:

F17UTAPE - Loads the CM load file from tape drive F17UTAPE.

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

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

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

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

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

Variable: **TABXFR\_STOPIF** [default is stopif = 1]

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

***Recommended settings is the default: stopif = 1.***

Value: <stopif> or UNLIMITED

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

eg1: 1024 - TABXFR halts after 1024 table failures.

eg2: UNLIMITED - TABXFR never stops

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Variable: **TABXFR\_LIMIT** [default is limit = 25]

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

**Recommended setting is the default: limit = 25**

Value: <n> or UNLIMITED

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

eg1: 3380 - TABXFR halts after 3380 tuple failures.

eg2: UNLIMITED - Unlimited number of failures for one table is allowed.

Variable: **TABXFR\_INITIAL\_PRINT** [default is 30 SECS]

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

**Recommended settings is the default: 30 SECS.**

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

eg1: 5 MINS - The message is printed after the first 5 minutes.

eg2: 30 SECS - The message is printed after the first 30 seconds.

eg3: FOREVER - The message is never printed.

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

Variable: **TABXFR\_INTERVAL\_PRINT** [default is FOREVER]

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

**Recommended settings is: 30 SECS.**

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

eg1: 5 MINS - The message is printed every 5 minutes.

eg2: 30 SECS - The message is printed every 30 seconds.

eg3: FOREVER - The message is never printed.

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

—continued—



**Procedure 1**  
**AutoONP procedure steps (continued)**Variable: **SPMS\_OPTION** [default is NONE]

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

**Recommended settings is the default: NONE.**

The options are:

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

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

NONE - Do not generate the SPMS report.

eg1: DATE 1999 10 15 - Display indices for 15/10/99 and averages.

eg2: DATE 99 2 1 - Display indices for 01/02/99 and averages.

eg3: DAYS 1 - Display previous day's indices and averages.

eg4: DAYS 0 - Display the averages for the current and previous months.

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

Determines if AUTODUMP is enabled on the upgraded load.

**Recommended setting for this variable is NO.**

The options are:

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

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

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

Variable: **DRTIME\_REPORT** [default is NO]

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

**Recommended setting is the default: NO.**

The options are:

YES - Print the report.

NO - Do not print the report.

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Variable: **DUMP\_NEW\_LOAD** [default is YES]

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

**Recommended setting for this variable is NO.**

The options are:

YES - AutoONP will dump the new image.

NO - AutoONP will not dump the new image.

**Note:** If the value of this variable is set to NO, the Site is responsible for manually taking an image of the new software load immediately after the AutoONP is complete (see procedure 2).

Variable (CSP09): **DIRP\_BILLING\_HAS\_BEEN\_POLLED** [default is YES]

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

**Recommended setting for this variable is NO.**

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

PRESWACT\_DIRP\_AND\_BILLING  
SEND\_DIRP\_INFO\_TO\_INACTIVE  
RECOVER\_DIRP\_AND\_BILLING

The options are:

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

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

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Variable (CSP10-CSP11): **AUTOMATED\_DIRP\_AND\_BILLING** [default is YES]

Asks the user if they want the automated DIRP and billing steps.

**Recommended setting for this variable is NO.**

***IMPORTANT: All DIRP and billing preparation should be done manually when prompted in step PRESWACT\_DIRP\_AND\_BILLING.***

**Note:** Only users experienced with DIRP billing configuration for ONP should set this variable to YES. This step works only for primary billing on DISK or TAPE. For all other DIRP devices manual steps must be performed.

If variable equals YES, the user is asked to indicate whether DIRP billing has been polled. The user is reminded that DIRP BILLING should have been polled by the billing center. Failure to do so can result in lost billing records should any of the billing devices become corrupted during the upgrade.

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

PRESWACT\_DIRP\_AND\_BILLING  
 SEND\_DIRP\_INFO\_TO\_INACTIVE  
 RECOVER\_DIRP\_AND\_BILLING

The options are:

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

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

*Examples:*  
 > set logs 'trap swerr'  
 > set trace\_device map

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

Environment variables can be displayed at any time by typing on the ACT\_terminal:

(CSP06-08) > **swupgrade;disp vars**  
 (CSP09) > **swupgrade;disp var all**  
 (CSP10->) > **swupgrade;disp var <variable\_name>**

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

- 12 After environment variables have been entered, continue the SWUPGRADE process. Type GO on the ACT\_terminal:

> go

***IMPORTANT NOTE:***

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 user input is required. To resume after a PAUSE, type GO on the ACT\_terminal.

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 necessary, you can QUIT the SWUPGRADE increment:

> quit

To re-enter the SWUPGRADE increment and continue, type:

> swupgrade;go

---

***The SWUPGRADE process automatically executes the remaining steps. Manual intervention is needed only when requested by information displayed on the Trace\_device terminal.***

Step: SETUP\_DIRP\_AND\_BILLING (CSP07-08)

SETUP\_DIRP\_AND\_BILLING performs the preparation for the other three DIRP billing steps: PRESWACT\_DIRP\_AND\_BILLING, SEND\_DIRP\_INFO\_TO\_INACTIVE, and RECOVER\_DIRP\_AND\_BILLING.

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

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

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

## Step: NOTIFY\_USERS

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

## Step: SET\_LOGIN\_BANNER (CSP08-&gt;)

SET\_LOGIN\_BANNER replaces the existing login banner file with SWUPGRADE login banner. This banner will be displayed upon successful login on any terminal.

## Step: DOWNLOAD\_FILES

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

## Step: READ\_BULLETINS

READ\_BULLETINS reads the BULLETINS file downloaded by step DOWNLOAD\_FILES. This causes the CI commands contained within the file to be executed. Step READ\_BULLETINS executes the following CI commands: SEND SINK;LISTSF ALL;SEND PREVIOUS;READ BULLETINS

**Note:** If no BULLETINS file exists in SFDEV an OVERRIDE is required to continue SWUPGRADE.

## Step: VERIFY\_DEVICES

VERIFY\_DEVICES verifies all devices used during the CM software upgrade process are setup correctly. Currently, the checks are if ENHANCED\_PASSWORD\_SECURITY is on, then LOGINCONTROL settings MAX\_IDLE\_TIME and OPEN\_CONDITION\_LOGOUT, should be set to FOREVER, and N respectively.

## Step: PRINT\_PARMES\_AND\_SAVE

PRINT\_PARMES\_AND\_SAVE prints the values of the office PARMES NODEREXCONTROL, LCDREX\_CONTROL, GUARANTEED\_TERMINAL\_CPU\_SHARE and DUMP\_RESTORE\_IN\_PROGRESS to the trace device and saves the values for use by step RESTORE\_PARMES.

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Step: CHECK\_LOGS\_1

“CHECK\_LOGS” steps will display a count of logs on the ACTIVE side, INACTIVE side, or both. The type of logs displayed is determined by the input to environment variable: **LOGS**.

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

**Note:** The Trace\_device terminal response for step CHECK\_LOGS\_1 "new logs on the ACTIVE CM since the start of the process" is only true for offices upgrading from CSP10 (and higher) loads. For offices upgrading from CSP09 (and lower) loads this response is not true. For those offices the log count displayed is actually for all of the logs in the Logutil buffer. Offices upgrading from CSP09 (and lower) have to identify which logs have occurred since the start of the AutoONP process, and only display the contents of those logs and traps.

---

**Additional information for displaying logs**

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

**ACT**

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

*Example:*

> display log CM 5 Inact

*This shows the five most recent CM logs in the mate side log buffer.*

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

To display the content of logs on the Active side:

**ACT**

> **quit all**

> **logutil**

> **open <log name> [<log number>]**

*repeat for each Active-side log*

> **quit**

*{to leave logutil increment}*

*Example:*

> logutil

> open CM 119

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

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

```

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

```

To display the content of logs on the Inactive side:

To login to the mate side processor, on the ACT\_terminal, type:

```

ACT
> mateio
> matelog <Trace_device>

```

On the Trace\_device type the username and password:

```

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

```

*Usernames and passwords for the Inactive no-data CM load are:*

```

admin admin
operator operator

```

```

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

```

*Example:*

```

Mate> logutil
Mate> open MS 314

```

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

```

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

```

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

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

**INACT**  
Mate> **logout**

**IMPORTANT:** Do not logout of the Active side on either the ACT or Trace\_device terminals. On the Trace\_device the Active side prompt should still be sleeping.

To re-enter SWUPGRADE and continue, type the following on the ACT\_terminal:

**ACT**  
> **swupgrade;go**

---

Step: STOP\_JOURNAL\_FILE

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

Step: PRINT\_MS\_LOADS

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

**Note:** The displayed information corresponds to the BASE layer of the MS load. The BASE layer is always one level higher than the corresponding CSP load level. For example, MS-U21BF would be the correct MS load for an office upgrading to a CSP20 load.

Step: ALIGN\_CM\_AND\_SLM (CM/SLM)

ALIGN\_CM\_AND\_SLM checks that the CM specified in environment variable INACT\_CM is in fact inactive. If not, the user is prompted to SWACT the CM or change the value of the variable.

Step: DISABLE\_PRSM\_AUDIT\_ACT (CSP10->)

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

Step: CMIC\_LINKHITS\_CHECK (CSP08->) (CM/SLM)

CMIC\_LINKHITS\_CHECK checks the integrity of the CMIC links on the Active side.

---

—continued—



**Procedure 1**  
**AutoONP procedure steps (continued)**

- 13 ***IMPORTANT:*** The following step will pause before dropping sync on the CM/SLM. When ready to drop sync, the user must instruct the Site to JAM the inactive CM (inactive-side RTIF) before the step can continue.

Step: DROP\_SYNC (CM/SLM)

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

Step: LOAD\_MATE (CM/SLM)

LOAD\_MATE loads the Inactive CM with the new software image from either tape or disk. This step reads LDMATE\_IMAGE variable to determine the device from which the new software image will be loaded.

***IMPORTANT:*** The following step will pause before splitting the XA-Core shared memory into an ACTive and INACTive unit. When ready to enter Split mode, the user must enter GO on the ACT\_terminal to continue.

Step: SPLIT\_AND\_LOADMATE (XACORE)

SPLIT\_AND\_LOADMATE will instruct the user to obtain permission to split the XA-Core shared memory, then pause to wait for the user to enter GO to continue. When the user enters GO, the process performs the split and loads the INACTive unit with the new XA-Core no-data load file from either tape or disk. This step reads LDMATE\_IMAGE variable to determine the device from which the new software image is to be loaded.

Step: MATELINK\_RTS

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

Step: UPDATE\_STEPS\_AND\_VARS

UPDATE\_STEPS\_AND\_VARS is executed after the Inactive CM is loadmated with the new software. It ensures that the AutoONP step list is built on the Inactive CM, that step information is updated on the Active CM and that environment variable values are transferred to the Inactive CM. This step ensures that the Active and Inactive CM AutoONP data is in sync.

Step: CHECK\_NEW\_LOAD

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

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Step: SET\_DATE\_AND\_LOGMSG

SET\_DATE\_AND\_LOGMSG transfers the Active side date and time to the Inactive and sets the log message to the value of variable INACT\_LOGMSG.

Step: CHECK\_LOGS\_2

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

***IMPORTANT:*** Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands (see "Additional information for displaying logs" in step CHECK\_LOGS\_1).

Step: CLEAR\_TRAPINFO

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

Step: TRANSFER\_DEVICES\_INFO

TRANSFER\_DEVICES\_INFO copies the information saved in VERIFY\_DEVICES from the Active cpu to the Inactive cpu.

Step: TRANSFER\_PARM\_VALUES

TRANSFER\_PARM\_VALUES copies the parameters saved in step PRINT\_PARM\_VALUES from the Active to the Inactive CM.

Step: RESET\_BCSUPDATE\_STEPS (CSP06-08)

RESET\_BCSUPDATE\_STEPS resets certain BCSUPDATE steps to needed.

Step: MS\_CHECK

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

Step: DISABLE\_AUTOIMAGE

DISABLE\_AUTOIMAGE disables the auto image dump process which could potentially interfere with the ONP process.

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

## Step: SET\_OFFICE\_TUPLES

SET\_OFFICE\_TUPLES retains the current state of office parameters NODEREXCONTROL, LCDREX\_CONTROL and GUARANTEED\_TERMINAL\_CPU\_SHARE and then sets both NODEREXCONTROL and LCDREX\_CONTROL to OFF and GUARANTEED\_TERMINAL\_CPU\_SHARE to its maximum value.

## Step: SET\_PADNDEV

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

## Step: SEND\_PATCHES

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

## Step: APPLY\_PATCHES

APPLY\_PATCHES messages the Inactive side to start the PRSM process which applies the patches that were sent to the Inactive side by the SEND\_PATCHES step.

## Step: CHECK\_LOGS\_3

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

***IMPORTANT:*** Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands (see "Additional information for displaying logs" in step CHECK\_LOGS\_1).

## Step: RESTORE\_PADNDEV

RESTORE\_PADNDEV restores table PADNDEV to contain the exact tuples it had before step SET\_PADNDEV was executed.

## Step: TABLE\_TRANSFER

TABLE\_TRANSFER executes the TABXFR process to transfer all data from the old to the new software load.

***If TABXFR errors are encountered perform step 14; otherwise, skip the following step and continue with step TABXFR\_REPORT.***

---

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

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

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

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

- a. Whenever it is necessary to access the INACT (mate) side to correct table failures: for CM/SLM verify a flashing A1, for XA-Core verify the inactive processor has initialized by attempting login.
- b. Access to the INACT side is done via the Trace\_device terminal. Before logging into the INACT side and if not already done, on the Trace\_device, ***sleep the Active side prompt*** by typing the following:

> **sleep 240 mins**

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

*Examples:*

> Active side processor (from-side software load)

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

- c. Login to the INACT side processor. On the ACT\_terminal type:

> **mateio**

> **matelog <Trace\_device>**

On the Trace\_device type the username and password:

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

Mate> **admin admin**

**Note:** Usernames and passwords for no-data CM loads are:

admin admin

*or*

operator operator

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

- d. On the ACT\_terminal investigate and determine if the failed table data is valid for the from-side software load. On the Trace\_device investigate and determine if the failed table data is valid for the to-side software load. After correcting table failures, logout of the INACT side processor:

Mate> **logout**

***IMPORTANT:*** Do not logout of the Active side processor on either the ACT\_terminal or Trace\_device (on the Trace\_device the Active side prompt should still be sleeping).

- e. Continue the SWUPGRADE process until step TABLE\_TABXFR is complete. On the ACT\_terminal type the following:

> **swupgrade;go**

**CAUTION**

**Repeat step 14 for every table failure encountered during TABXFR.**  
Failure to investigate and correct table failures may cause serious problems and result in service degradation after SWACT.

---

Step: TABXFR\_REPORT (CSP09->)

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

Step: CHECK\_LOGS\_4

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

***IMPORTANT:*** Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands (see "Additional information for displaying logs" in step CHECK\_LOGS\_1).

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

## Step: START\_PRESWACT

START\_PRESWACT initiates the PRESWACT process to prepare the office for a switch of activity (SWACT) to the new load. START\_PRESWACT 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 START\_PRESWACT finishes, all of the PRESWACT steps will be displayed with a status of "Complete."

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

If any step fails to complete and START\_PRESWACT stops, make corrections and continue START\_PRESWACT by typing:

> **swupgrade;go**

**Note:** START\_PRESWACT will re-execute the failed step and continue.

*Example printout of a failed START\_PRESWACT step:*

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

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

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

---

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

- 15 Read the following notes while step START\_PRESWACT executes.

**Note 1:** Step TABLE\_DELTA will display any "differences" (changes, additions, deletions) between old and new software loads for the following engineering tables: OFCENG, OFCSTD, OFCVAR, OFCOPT, DATASIZE, TCAPTRID, and OPTCTL. If table differences exist, START\_PRESWACT will display the OLD/NEW, ADDED, or DELETED tuples, and will pause to give a message indicating that step TABLE\_DELTA did not complete.

*Example printout of TABLE\_DELTA step:*

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

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

**OLD CPSTACKSIZE 1504
**NEW CPSTACKSIZE 2000

**ADDED E911_NPD_TO_NPA_CONV_IN_EFFECT N

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

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

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

***IMPORTANT:*** The DELTA command has been enhanced beginning with CSP10/Base11 loads to take into account any requested office PARM changes made by the FEATDATA file during TABXFR. If upgrading from CSP10 (and higher) loads, refer to "Delta command syntax" section in Appendix A for the enhancements.

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Make changes if required, then continue START\_PRESWACT by typing:

> **swupgrade;go**

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

*As an example:*

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

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

*As an example:*

```
STATUSUPDATE executing

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

The following devices are NOT OK and NOT OFFLINE:

Node Device

LINK 2 on MPC 1
LINK 2 on MPC 5

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

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

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

—continued—



**Procedure 1**  
**AutoONP procedure steps (continued)**

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

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

Make changes if required, then continue START\_PRESWACT by typing:

```
> swupgrade;go
```

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

Make changes if required, then continue START\_PRESWACT by typing:

```
> swupgrade;go
```

---

**16** The PRESWACT\_DIRP\_AND\_BILLING step may require manual action.

**CAUTION**

**Failure to prepare AMA may cause loss of billing data over SWACT.**  
 Procedures to manually prepare AMA are found in Appendix B.

Step: PRESWACT\_DIRP\_AND\_BILLING

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

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

***ATTENTION:*** Offices equipped with SDM billing must ensure the SBA system is not undergoing back-up or recovery during SWACT. No other manual action is required for SDM billing (see Appendix B Section 12.1).

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

```
> swupgrade;go
```

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Step: PRINT\_SPMS\_INDICES

PRINT\_SPMS\_INDICES dumps the SPMS indices to the trace device.

---

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

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

Step: GET\_FIRST\_SWACT\_AGREEMENT

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

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

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

Step: PREPARE\_FOR\_SWACT

PREPARE\_FOR\_SWACT reminds the user to perform the following:

1. If there are any remote applications (DNC) connected to this switch, inform the operating company to have them log out before the software upgrade process can continue.
2. Instruct the operating company personnel to contact the high profile customers to ensure that they are not in emergency call processing mode and inform them that a SWACT will occur shortly.
3. Disable all polling and periodic testing.
4. Ensure no further activity is performed on the DPP and inform the downstream processing center.
5. Dump all special logs so they can be restored on the new load after POSTSWACT.

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

***FINAL\_SWACT\_CONFIRMATION is requested just before SWACT.***

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

## Step: STATUSCHECK

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

## Step: CHECK\_LOGS\_5

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

***IMPORTANT:*** Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands (see "Additional information for displaying logs" in step CHECK\_LOGS\_1).

## Step: SEND\_DIRP\_INFO\_TO\_INACTIVE (CSP07-&gt; CSP11)

The SEND\_DIRP\_INFO\_TO\_INACTIVE step sends the information gathered during the SWUPGRADE setup to the Inactive new load before SWACT. This data includes the user-supplied information gathered during that step's interactive question-and-answer session as well as DIRP volume disposition at the time PRESWACT\_DIRP\_AND\_BILLING is run.

Any subsequent DIRP interventions occurring between the sending of the data and SWACT will cause the data to be unreliable and will adversely affect the RECOVER\_DIRP\_AND\_BILLING (CSP07-19) or POSTSWACT\_DIRP\_AND\_BILLING (CSP20->) step after SWACT.

## Step: TRANSFER\_TIMINGS

TRANSFER\_TIMINGS updates the step information on the Inactive CM just before the SWACT. It also transfers the step log data, which is used by step PRINT\_SWUPGRADE\_REPORT.

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

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

**CAUTION**

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

Step: SWACT

SWACT reminds the user to release the jam on the Inactive CM before the step can continue (release jam is not necessary on XACORE offices). FINAL\_SWACT\_CONFIRMATION requests a final agreement to switch activity just before performing the actual CC warm SWACT. Confirmation is secured by entering GO. Then the SWACT proceeds. The type of SWACT performed depends on the office configuration and is displayed in both SWACT confirmation requests. The result of this step is the final activation of the new load.

***ATTENTION:*** *Monitor progress of the Switch of Activity on the Trace\_device during execution of this step.*

***WARNING:*** If office has a Universal Signaling Point (USP) configured as a SS7 Signaling Gateway the USP will be isolated from the Core during SWACT. This may cause the USP to momentarily begin setting linksets to "unavailable" state. After SWACT when communication is re-established between the Core and USP all linksets will recover.

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

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

1. If the old software load is still Active, type CANCEL on the Active side to abort the software upgrade process.
2. To revert or SWACT back to CSP07 (and higher) software loads, type CANCEL on the new load.
3. To revert or SWACT back to CSP06 software loads, do not use the CANCEL command on the new load. Instead manual steps must be performed (refer to the "Revert and Abort procedures" section).

---

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

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

**Note:** Auto login is supported for a NORESTARTSWACT only. Auto login may not work for some Datakit access and will not work if site access does not stay connected (for example if Telnet connections are dropped).

If upgrading to CSP09 or lower, or if the site access does not stay connected, manually login and continue the AutoONP as follows:

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

*<break>*

?LOGIN

*{system response}*

Enter username and password

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

or > **<username>**

> **<password>**

- b.** If site access is via Telnet connections that had to be re-established, ensure the Trace device is still set. Type the following on the ACT\_terminal:

> **swupgrade;disp var trace\_device**

If tracing is not set to a device, or if it is set to the wrong device, set the trace device as follows:

> **quser**

> **set trace\_device <device\_name>**

*Where <device\_name> is the device selected for tracing.*

- c.** Continue the AutoONP to conclusion:

> **swupgrade;go**

---

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

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

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

---

***The remaining steps are automatically executed by the SWUPGRADE process. Manual intervention is needed only when requested by display messages on the Trace\_device terminal.***

Step: DISPLAY\_DATE

DISPLAY\_DATE displays the date and time on the new Active side.

Step: RECOVER\_DIRP\_AND\_BILLING (CSP10-19)

RECOVER\_DIRP\_AND\_BILLING requires the user to verify recovery of all billing subsystems after SWACT and to set up standby and parallel recording devices where applicable.

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

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

**> swupgrade;go**

Step: POSTSWACT\_DIRP\_AND\_BILLING (CSP20->)

POSTSWACT\_DIRP\_AND\_BILLING displays an ADVISORY for the AMA and SMDR DIRP Billing Subsystems and instructs the user that DIRP subsystems will be automatically recovered by POSTSWACT step DIRP\_RECOVERY within the next few steps.

**Note:** The user is asked NOT to attempt to manually recover DIRP subsystems at this time to avoid conflicts with the POSTSWACT automatic DIRP recovery routines.

Immediately continue by typing GO on the Active terminal to invoke the automated DIRP recovery routine:

**> swupgrade;go**

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**Step: `PERFORM_TEST_CALLS_1` (*CSP11->*)

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

**HLR Mated-Pair Upgrade only:** To enable testing of Mated-Pair functionality at this stage refer to Appendix B Section 12.11 “Procedures for HLR Mated-Pair Upgrade” and perform the following procedures:

- Enable Mated-Pair synchronization during upgrade (section 12.11.4)
- Set Mated-Pair release and turn Mated-Pair SYNC on (section 12.11.2)

When testing of Mated-Pair functionality has been completed perform the following procedures:

- Turn Mated-Pair SYNC off (section 12.11.6)
- Disable Mated-Pair synchronization during upgrade (section 12.11.5)

Step: `START_POSTSWACT`

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

**Note:** Step `START_POSTSWACT` will pause after `POSTSWACT` substep `BEGIN_TESTING`. The remaining steps will be executed during step `FINISH_POSTSWACT`.

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

> **swupgrade;go**

Step: `RESTART_OLD_LOAD` (*CM/SLM*) or (*XACORE CSP12-13*)

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

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Step: DRTIME\_PRINT

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

Step: PERFORM\_TEST\_CALLS\_2 (CSP11->)

PERFORM\_TEST\_CALLS\_2 reminds the user to execute the test calls that were identified ahead of time and documented in the test file scripts by the operating company personnel. For more detail, see Appendix C.

Step: PERFORM\_TEST\_CALLS (CSP06-10)

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

- 
- 19** The SWUPGRADE process will pause after step PERFORM\_TEST\_CALLS (CSP06->10) or PERFORM\_TEST\_CALLS\_2 (CSP11->) to allow testing of the new software load. After Site completes testing and accepts the new software load, continue SWUPGRADE by typing GO on the Active terminal:

**> swupgrade;go**

**CAUTION**

**Resuming SWUPGRADE will SYNC (CM/SLM) or UNSPLIT (XACORE) the switch. Do not continue until Test Calls have been successfully completed.**

Only after the operating company has accepted the new load and given the go-ahead should the switch be put back in SYNC/DUPLEX.

Step: SYNC\_SWITCH (CM/SLM) or UNSPLIT\_SWITCH (XACORE)

SYNC\_SWITCH or UNSPLIT\_SWITCH will first prompt the user for confirmation and wait until RESUME, GO, or CONTINUE is entered. Once confirmation is received, the step will bring the CM/SLM processors back into SYNC or the XACORE processors and shared memory into DUPLEX mode.

—continued—



**Procedure 1**  
**AutoONP procedure steps (continued)**

## Step: FINISH\_POSTSWACT

FINISH\_POSTSWACT executes the remaining POSTSWACT steps after step BEGIN\_TESTING. The individual steps can be displayed and if necessary manually executed. When FINISH\_POSTSWACT completes, all of the POSTSWACT steps will be displayed with a status of "complete."

If during START\_POSTSWACT a step fails to complete, the process will stop and give additional information. Use the information given to investigate and correct the problem. After making corrections, continue step FINISH\_POSTSWACT by typing GO on the ACT\_terminal:

```
> swupgrade;go
```

## Step: RESTORE\_PARMS

RESTORE\_PARMS restores the values of the office PARMS NODEREXCONTROL, LCDREX\_CONTROL, GUARANTEED\_TERMINAL\_CPU\_SHARE and DUMP\_RESTORE\_IN\_PROGRESS which were saved in step PRINT\_PARMS\_AND\_SAVE.

## Step: RESET\_DEVICES

RESET\_DEVICES verifies all devices used during the CM software upgrade process are set to their original values. The LOGINCONTROL settings MAX\_IDLE\_TIME and OPEN\_CONDITION\_LOGOUT may have been changed in step VERIFY\_DEVICES and the original values transferred to the restore side by step TRANSFER\_DEVICES\_INFO. These device values should be set to their original values.

## Step: COMPLETE\_NEW\_LOAD\_INIT

COMPLETE\_NEW\_LOAD\_INIT prints a series of messages to remind the site to perform some manual items after POSTSWACT is completed.

## Step: RESET\_LOGIN\_BANNER (CSP08-&gt;)

RESET\_LOGIN\_BANNER erases the SWUPGRADE login banner.

## Step: SET\_AUTODUMP\_RETAIN (CSP06)

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

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Step: DUMP\_NEW\_LOAD

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

**Note:** If the DUMP\_NEW\_LOAD variable was set to NO during step SETUP\_ENV\_VARS, the Site is responsible for manually taking an image of the new load immediately after the AutoONP is complete. Refer to procedure 2 "Dump Office Image" to complete this important step.

Step: RESUME\_REX\_TEST (CSP10->)

RESUME\_REX\_TEST will resume all REX test(s) previously suspended by PRESWACT step SET\_MATE\_TUPLES.

Step: START\_JOURNAL\_FILE

START\_JOURNAL\_FILE re-establishes recording onto the journal file.

Step: PRINT\_SWUPGRADE\_REPORT

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

Description of the report columns:

Step name: The name of the step.

Since last: Elapsed time between previous and this step.

Start: Start time of this step.

Elapsed: The time it took to execute this step.

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

Possible values for the return code are:

success: Step executed successfully.

pause\_fail: The step failed and was re-executed.

pause\_repeat: The step needed to be executed more than once.

pause\_skip: The step caused a pause but was not re-executed.

—continued—

**Procedure 1**  
**AutoONP procedure steps (continued)**

Step: STOP\_RECORD

STOP\_RECORD stops the recording onto the printer designated by the PRINTER variable.

Step: UPGRADE\_COMPLETE

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

Continue by typing GO on the ACT\_terminal:

> **swupgrade;go**

---

**20** Quit the SWUPGRADE increment.

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

*...Process complete. You may now QUIT out of the SWUPGRADE increment. Finished step UPGRADE\_COMPLETE.*

On the ACT\_terminal type the following:

> **quit all**

---

**21** **HLR Mated-Pair Upgrade only:** After completing SWUPGRADE ensure Mated-Pair synchronization is turned back on. Refer to Appendix B Section 12.11 "Procedures for HLR Mated-Pair Upgrade" and perform the following procedure:

- Set Mated-Pair release and turn Mated-Pair SYNC on (section 12.11.2)
-

### 7.3.2 Procedure 2 – Dump Office Image

This procedure is only applicable if the SWUPGRADE environment variable DUMP\_NEW\_LOAD was set to NO during step SETUP\_ENV\_VARS.

**CAUTION**

**The operating company must ensure there is sufficient disk space to dump an office image of the new software load.**

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.

***IMPORTANT:*** If there is a problem with completing this procedure, contact your next level of support.

- 1 **Site/ACT** Dump an office image of the new software load.
  - a. Determine the disk volume that will be used to dump the image.
    - > **diskut**
    - > **lv** *{lists all volumes on the disk}*
    - > **lf <volume>**
    - Where <volume> is the disk volume*
  - b. Prepare the disk volume to allow sufficient space for the office image. If necessary, clear and erase the oldest ITOC files in the disk volume.
  - c. If office is SuperNode CM/SLM and LOADMATE was done from SLM disk, remove the no-data CM load file from ITOC and delete the file from SLM disk.
  - d. Dump an office image of the new software load and back this image up to tape. Copy the image of the new software load to the other disk volume and update ITOC.

**Note:** If the AUTODUMP RETAIN option was set to "OFF" during the ONP and if desired, set it back to "ON".

- 
- 2 **App** The Software Delivery Applicator will monitor the office until a successful image has been dumped. After this procedure is complete, log out of the office.
    - > **logout**
-

### 7.3.3 Procedure 3 – Restore Mated-Pair Configuration

**ATTENTION:** This procedure applies to HLR Mated-Pair Upgrade only.

This procedure must be performed if the following two conditions are met:

- The HLR was upgraded as part of a Mated-Pair configuration.
- Site Preparation step “Minimize outages during Mated-Pair Upgrade was completed prior to the upgrade (see Section 3.2.11).

Since all subscribers have been handed over to the HLR-Mate and all acting subscribers have been Maintenance Blocked there before the HLR upgrade then it is important to restore the Mated-Pair configuration which allows restoring geographic redundancy and allows upgrading HLR-Mate without the window of vulnerability during upgrade.

- 1 **Site** Refer to Appendix B Supplementary Procedures Section “Procedures for HLR Mated-Pair Upgrade” and perform the following procedure:

- Restore the original subscriber Acting configuration (section 12.11.3)

**Note:** This procedure hands over subscribers and restores the original Mated-Pair configuration between HLR and its Mate.

---

### 7.3.4 Procedure 4 – XACORE Firmware Upgrade Notice

Perform this procedure on XACORE offices in a multi processor element (PE) configuration such as N+1 (where N = 2 or higher). Do not perform this procedure if the XACORE office is a 1+1 PE configuration or if the office is equipped with CM/SLM and 68K or 88K processors.

#### **CAUTION**

**System may raise “Baseln” major alarm after completion of ONP.**

A new CSP20 feature has been introduced to raise an alarm when XACORE firmware is below baseline. If this condition occurs after the ONP do not try to clear the Baseln major alarm immediately. Refer to the appropriate PM Software Release Document and update any new required XACORE firmware prior to clearing the alarm.

***IMPORTANT:*** After completing software upgrade to new PCL and after successfully dumping an office image of the new PCL, any new required XACORE firmware load must be upgraded in the affected components (for example: PE, IOP, HIOP, CMIC, AMDI, and ETHR). Information regarding baseline and new release firmware is found in the appropriate Peripheral Module Software Release Document for the new PCL.

- 1 **App** Remind Site personnel to refer to the appropriate PM Software Release Document for the new PCL and review the XACORE component firmware that is required (if any) for the new PCL software.
- 2 **Site** The operating company is responsible for upgrading any required firmware identified in the PM Software Release Document immediately following the ONP. If the ONP maintenance window does not allow time for the firmware upgrades, the XACORE component firmware upgrade should be scheduled for the next maintenance window.

#### **ATTENTION**

**After completing the XACORE component firmware upgrade a revert to the previous PCL software is not supported.**

Do not upgrade the XACORE component firmware until after completion of all test cases and full acceptance of the new PCL.

---

**This completes the AutoONP procedure**

---

# 8 Revert and Abort procedures

---

## 8.1 General

Perform these procedures only if it is necessary to Revert (SWACT back) to the old software load, *or* if it is necessary to Abort (cancel) the SWUPGRADE process prior to SWACT. In most cases and under normal circumstances, the Revert to old load process will take approximately 45 minutes to complete. Depending on the software level and whether or not SWACT has occurred, one of the following procedures will apply:

Section 8.2 - Revert (SWACT back) to CSP07 and higher loads

Section 8.3 - Abort (before SWACT) procedure for CSP06 and higher loads

Section 8.4 - Revert (SWACT back) to CSP06 loads only

Section 8.5 - Emergency Abort procedure (CM/SLM offices only) for all software loads

### CAUTION

**Note the correct use of the CANCEL command to terminate (abort) the SWUPGRADE process.**

1. If the old software load is Active, type CANCEL on the ACT\_terminal to abort the SWUPGRADE process.
2. If the new software load is Active, type CANCEL on the ACT\_terminal to Revert (SWACT back) to the old software load.
3. Do not use the CANCEL command on the new software load to Revert (SWACT back) to CSP06 loads. If necessary to Revert back to a CSP06 load, manual steps must be performed to abort the SWUPGRADE process.

### ATTENTION

**MTX Wireless customers performing Revert procedures.**

All IOS calls, which are calls established on a non-Nortel Networks BSC, will be dropped by the ABORTSWACT step.

## 8.2 Revert back to CSP07 and higher loads

### 8.2.1 Procedure 1 - Revert procedure steps

1 ACT Type the following on the Active terminal:

```
> swupgrade
> cancel
Two confirmations will be required to continue.
> yes (enter twice)
```

#### **Example:**

Following is an example of the messages generated when the Cancel command is entered on the Active terminal and confirmed twice.

```

** WARNING!!
**
** The CANCEL command cancels all work done by SWUPGRADE
** so far. Once cancelled SWUPGRADE has to be re-started.
** To halt temporarily, use the PAUSE command. Type:
** HELP PAUSE
** for more information.
**
** Do you wish to CANCEL the SWUPGRADE?

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

** WARNING!!
**
** CANCEL will rollback all completed steps.
** The switch is split.
** Do you want to UNSPLIT the switch during the rollback?

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

**End of example**

---

—continued—



**Procedure 1**  
**Revert procedure steps (continued)**

- 2 ***ATTENTION: Watch the output messages on the TRACE DEVICE!***  
 The "Trace Device" will output messages informing the operator what steps are being rolled back (see example below). Upon getting the messages:

*The SWUPGRADE process has paused. Enter GO or  
 Type GO to resume CANCEL*

The operator must type "GO" and press return on the ACT\_terminal until getting the message:

*SWUPGRADE CANCEL is completed.  
 You may now QUIT out of the SWUPGRADE increment.*

- 
- 3 **ACT** After the SWACT, login on the old load by typing the following on the ACT\_terminal:

*<break>*

?login

Enter username and password:

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

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

***IMPORTANT!*** Immediately after logging in to the old load and before continuing the Revert AutoONP, type the following:

> **tabxfr;cancel**

terminal response:

**\*\*WARNING:** This command cancels the data move. Once cancelled it cannot be restarted without rebooting the new BCS image. If a temporary halt is desired please use the HALT or STOPXFR commands. Do you wish to CANCEL the data move?

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

> **y** *{for confirmation }*  
 > **quit**

---

—continued—

**Procedure 1**  
**Revert procedure steps (continued)**

- 4 **ACT** Ensure the Trace device is still set. Type the following on the ACT\_terminal.

> **swupgrade;disp var trace\_device**

If the tracing is not set to a device, or if it is set to the wrong device, set the trace device as follows.

> **set trace\_device <device\_name>**

Where <device\_name> is the device selected for tracing.

---

- 5 **ACT** Continue the Revert AutoONP to conclusion.

> **swupgrade;go**

---

- 6 **ACT** Enter the following when SWUPGRADE CANCEL is completed: .

> **quit all**

---

**Example session of SWUPGRADE CANCEL**

Executing the step RESTART\_OLD\_LOAD. (CM/SLM)

The step RESTART\_OLD\_LOAD is completed.

- or -

An inactive reload restart is being invoked to (XACORE)

Prepare for the rollback of the SWUPGRADE SWACT step.

The inactive reload restart completed successfully.

Continuing with SWUPGRADE CANCEL.

Executing the step STATUSCHECK.

Checking Nodes Status

Checking DS1 Carriers Status

Checking MS Interface Cards Status

Checking LIU Status

Checking MPC Links Status

Checking MS FBUS Status

STATUSCHECK successful.

The step STATUSCHECK is completed.

—continued—

**Procedure 1**  
**Revert procedure steps (continued)**

Executing the roll back for step recover\_dirp\_and\_billing.

- or -

Executing the roll back for step postswact\_dirp\_and\_billing.

Configure the DIRP billing subsystems for revert SWACT to the old load.

Note: For details for completing the following refer to "PRESWACT DIRP and billing" procedure.

- a. ACT Take down billing tapes and format new standby volumes in DIRP. Leave these demounted, they will become the active volumes after SWACT. Disk volumes will rotate and recover automatically after SWACT. Parallel volumes on tape (or DPP/BMC) can be recovered manually after SWACT.
- b. INACT Ensure datafill is correct on the inactive side for table DIRPPool.
- c. INACT if DIRP\_REC file is present on the inactive SFDEV, ensure each entry in DIRP\_REC is correct for the revert SWACT.

Note: In DIRP\_REC the parallel volume assignments for DIRPPool should be set to nil (\$) for all pools.

Execution completed.

The SWUPGRADE process has paused. Enter GO.

WARNING: SWUPGRADE is about to execute the ABORTSWACT step.  
Do you wish to proceed?

Execution completed.

The SWUPGRADE process has paused. Enter GO.

Executing the step SWACT.

Beginning SWACT checks:

All the SWACT checks have finished successfully.

—continued—

**Procedure 1**  
**Revert procedure steps (continued)**

```
***** FINAL SWACT CONFIRMATION *****
Do you wish to proceed with the ABORTSWACT CC warm swact?
Execution is not complete.
The SWUPGRADE process has paused. Enter GO.
```

```
Executing the step SWACT.
After the completion of the CC warm swact, please log
onto the new active side and enter SWUPGRADE;GO.
All Pre-SWACT checks completed. Starting Warm SWACT now.
***** The cursor will not be returned *****
***** unless a critical failure occurs. *****
***** Now monitoring Warm SWACT messages.*****
```

```
Pre-initialization done
Communication established
Exchange of data with the mate done
Transfer of data done (FASPECT)
Data estimation done
Store allocated on active CC
Store allocated on inactive CC
AMA processing completed
Before_callp_stopped procs completed
Call processing on PM stopped
Call processing I/O in CC stopped
Call data extracted
Data transfer completed
```

```
Activity Switch on CPU...
```

```
Executing the step DISPLAY_DATE
This device is selected for TRACEing
```

```
Starting step DISPLAY_DATE.
Date: 2003/08/24, Time: 10:43:50
The step DISPLAY_DATE is completed
```

—continued—

**Procedure 1**  
**Revert procedure steps (continued)**

Resetting the default tabxfr platform.  
 Tabxfr platform has been reset to XACORE.

Executing the step START\_POSTSWACT

|                     |           |
|---------------------|-----------|
| REACTIVATE_TRIGASGN | executing |
| REACTIVATE_TRIGASGN | complete  |

|               |           |
|---------------|-----------|
| DIRP_RECOVERY | executing |
| DIRP_RECOVERY | complete  |

|            |           |
|------------|-----------|
| DIRP_AUDIT | executing |
| DIRP_AUDIT | complete  |

|                |           |
|----------------|-----------|
| HARDWARE_CHECK | executing |
| HARDWARE_CHECK | complete  |

|               |           |
|---------------|-----------|
| BEGIN_TESTING | executing |
| BEGIN_TESTING | complete  |

Enter Postswact after office testing has been completed  
 The step START\_POSTSWACT is completed

Enter Postswact after office testing has been completed  
 The step START\_POSTSWACT is completed  
 Type GO to resume CANCEL

Executing the step CHECK\_LOGS\_1

New logs on ACTIVE CM since 2003/08/24 10:09:12:

|       |     |
|-------|-----|
| TRAP  | : 0 |
| SWERR | : 0 |
| XAC   | : 8 |
| MS    | : 2 |
| NET   | : 0 |
| ENET  | : 0 |

Use command DISPLAY LOG <log name> <n or ALL> [Act or Inact]  
 to see the content of a log.

Execution completed.

The SWUPGRADE process has paused. Enter GO.

—continued—

**Procedure 1**  
**Revert procedure steps (continued)**

Executing the rollback for step PRESWACT\_DIRP\_AND\_BILLING.  
Please follow the step Recover billing from the ONP MOP  
procedure Revert to old load to perform the rollback  
of the step PRESWACT\_DIRP\_AND\_BILLING.  
Execution completed.  
The SWUPGRADE process has paused. Enter GO.

Executing the step RESTORE\_PARMS  
The step RESTORE\_PARMS is completed.  
Executing the step PERFORM\_TEST\_CALLS.  
AMAB has been added to the LOGS variable for  
automatic monitoring during the execution of the  
test calls for possible AMA test call failures.  
Please perform the test calls that were identified ahead  
of time and documented in the test file scripts.  
Execution is not complete.  
The SWUPGRADE process has paused. Enter GO.

Executing the step PERFORM\_TEST\_CALLS.  
AMAB has been removed from the LOGS variable.  
The step PERFORM\_TEST\_CALLS is completed.

Executing the step UNSPLIT\_SWITCH.  
SWUPGRADE has now reached the UNSPLIT\_SWITCH step.  
Are you ready to UNSPLIT the switch?  
Execution is not complete.  
The SWUPGRADE process has paused. Enter GO.

Executing the step UNSPLIT\_SWITCH.  
  
The step UNSPLIT\_SWITCH is completed.

—continued—



## 8.3 Abort procedure prior to SWACT

This section details the steps required to terminate (abort) the software upgrade process before SWACT has occurred. The Abort procedure is applicable to all software loads on CSP06 and higher for both SuperNode CM/SLM and SuperNode XACORE.

### 8.3.1 Procedure 1 - Abort procedure steps

1 **ACT** Type the following on the ACT\_terminal:

> **swupgrade**

> **cancel**

*Two confirmations will be required to continue.*

> **yes** *(enter twice)*

**Example:**

Following is an example of the messages generated when the Cancel command is entered on the Active terminal and confirmed twice.

```

** WARNING!!
**
** The CANCEL command cancels all work done by SWUPGRADE
** so far. Once cancelled SWUPGRADE has to be re-started.
** To halt temporarily, use the PAUSE command. Type:
** HELP PAUSE
** for more information.
**
** Do you wish to CANCEL the SWUPGRADE?

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

** WARNING!!
**
** CANCEL will rollback all completed steps.
** The switch is not in sync.
** Do you want to SYNC the switch during the rollback?

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

**End of example**

---

—continued—



**Procedure 1**  
**Abort procedure steps (continued)**

- 2** ***ATTENTION: Watch the output messages on the TRACE DEVICE!***  
The "Trace Device" will output messages informing the operator what steps are being rolled back (see example below). Upon getting the messages:

*The SWUPGRADE process has paused. Enter GO or  
Type GO to resume CANCEL*

The operator must type "GO" and press return on the ACT terminal until getting the message:

*SWUPGRADE CANCEL is completed.  
You may now QUIT out of the SWUPGRADE increment.*

---

- 3** ***ATTENTION: Manual intervention is required.***

***For SuperNode CM/SLM:***

When the following message is displayed on the Trace Device, the operator must first release the JAM on the INACT RTIF before executing the step. After the JAM is released, enter "GO" on the ACT terminal to continue.

*Executing the step SYNC\_SWITCH.  
SWUPGRADE has now reached the SYNC\_SWITCH step  
Are you ready to SYNC the SWITCH?*

***For SuperNode XA-Core:***

When the following message is displayed on the Trace Device, the operator must enter "GO" on the ACT terminal to continue.

*Executing the step UNSPLIT\_SWITCH.  
SWUPGRADE has now reached the UNSPLIT\_SWITCH step  
Are you ready to UNSPLIT the SWITCH?*

***Example session of CANCEL before SWACT step is executed:***

*WARNING: The rollback of software upgrade steps is  
about to start.*

*Resetting the default tabxfr platform.*

*Tabxfr platform has been reset to STANDARD.  
Executing the rollback for step PRESWACT\_DIRP\_AND\_BILLING.*

*Please follow the step Recover billing from the ONP MOP  
procedure Revert to old load to perform the rollback  
of the step PRESWACT\_DIRP\_AND\_BILLING.  
Execution completed.  
The SWUPGRADE process has paused. Enter GO.*

**—continued—**



**Procedure 1**  
**Abort procedure steps (continued)**

|                               |           |
|-------------------------------|-----------|
| RESET_OFFICE_TUPLES           | complete  |
| ENABLE_AUTOIMAGE              | executing |
| ENABLE_AUTOIMAGE              | complete  |
| RESUME_ATT                    | executing |
| RESUME_ATT                    | complete  |
| RESET_SIS_ROUTING_DATA        | executing |
| RESET_SIS_ROUTING_DATA        | complete  |
| ABORT_PRESWACT has completed. |           |
| Execution completed.          |           |

Executing the step STOP\_RECORD  
The step STOP\_RECORD is completed.  
The rollback of SWUPGRADE steps is completed.

SWUPGRADE CANCEL is completed.  
You may now QUIT out of the SWUPGRADE increment.

**End of example**

---

**4 ACT** When CANCEL is complete, quit the SWUPGRADE increment.

**> quit all**

---

**End of Abort procedure prior to SWACT**

## 8.4 Revert back to CSP06 load

This section details the procedures required to Revert (SWACT back) to CSP06 software loads only. Do not perform these procedures if reverting back to a software load that is higher than CSP06.

**ATTENTION:** This procedure does not apply to SuperNode XACORE which is not supported until CSP12.

Perform the following procedure if a controlled Revert is required after the switch of activity (SWACT) to the new load.

**REMINDER:** The CPU with the new software load is now *Active*. You will be going back to the old software load that is now *Inactive*.

### CAUTION

**Do not attempt to use the “NORESTARTSWACT” command to Revert back to the old software load.**

Instead, use the procedure steps below. The NORESTARTSWACT command was not designed to Revert back to CSP06 software loads.

### 8.4.1 Procedure 1 - Before Revert

- 1 **Site** Do not proceed until both the Operating Company and Nortel Networks on-line support agree.

---

- 2 **Site** Contact high profile customers and customers with essential services (that is, police and emergency bureaus, hospitals, etc.) to verify they are not in emergency call processing mode.

---

## 8.4.2 Procedure 2 - Restart Inactive Revert

**CAUTION**

Do not perform this procedure if the restart reload on the Inactive side was already done and the Inactive processor is flashing A1.

- 1 **Site/INACT** Perform a restart reload on the Inactive side processor (the old PCL software load).
    - a. From the CM MAP level, ensure the Inactive processor is *not* under test (ut). If it is, WAIT FOR THE TESTING TO COMPLETE.
    - b. From the Inactive RTIF perform a restart reload on the *Inactive* processor (old load).

```
RTIF> \RESTART RELOAD
RTIF> YES {for confirmation}
```
    - c. Allow initialization on the Inactive side. Inform the Applicator when the Inactive processor is flashing A1.

---

  - 2 **App/INACT** Confirm that the Inactive side processor is flashing A1.
-

### 8.4.3 Procedure 3 - Login Inactive Revert

- 1 **Site and App/INACT** Verify with site there is a flashing A1 on the Inactive processor.
- 

- 2 **App** If necessary, login on the Inactive (mate) side as follows.

- a. **ACT** On the Active terminal type:

```
> MATEIO
```

```
> MATELOG <device_name>
```

*Where <device\_name> is the name of the Inactive terminal.*

- b. **INACT** On the Inactive terminal type:

```
Enter username and password
```

*{mate side response}*

```
Mate> <username> <password>
```

or Enter username

```
Mate> <username>
```

```
Enter password
```

```
Mate> <password>
```

---

#### 8.4.4 Procedure 4 - Configure DIRP and Billing

- 1 **Site and App** Configure the DIRP billing subsystems for a revert (SWACT back) to the old load.

**Note:** For details refer to the "PRESWACT DIRP and billing procedures" section in Appendix B.

- a. **ACT** Take down billing tapes and format new standby volumes in DIRP. Leave these de-mounted, they will become the Active volumes after SWACT.

Disk volumes will rotate and recover automatically after SWACT.

Parallel volumes on tape should be recovered manually after SWACT.

- b. **INACT** Ensure datafill is correct on the mate side for table DIRPPOOL.

- c. **INACT** If DIRP\_INAC file is present in mate SFDEV, ensure each entry in this file is correct for the revert SWACT.

**Note:** In DIRP\_INAC the parallel volume assignments for DIRPPOOL should be set to nil (\$) for all pools.

---

### 8.4.5 Procedure 5 - Start Logs before Revert

- 1 **App/ACT** Set up LOGS for the Revert (SWACT back).

**Note:** The purpose of this step is to turn on logs at the terminal designated as the "ACT" device. Normally, logs will have been routed also to a printer at the start of the session.

a. > LOGUTIL;STOP

b. > DELDEVICE <device\_name>  
*Where <device\_name> is where logs are to be routed.*

c. > ADDREP <device\_name> SWCT

d. > START  
*This starts logs on "this" device. If a different terminal device was selected above, then use >STARTDEV <device\_name>.*

e. > LEAVE

---



### 8.4.6 Procedure 6 - Run STATUSCHECK

- 1 **App/ACT** Run STATUSCHECK to compare hardware status of the two sides. (Status must be OK, OFFLINE, or UNEQUIPPED.) This also verifies communication with the mate side.

**Note:** STATUSCHECK *may* cause a restart on the Inactive side (watch the Inactive RTIF). If the Inactive side does restart, it should initialize and come back to a flashing A1.

a. > BCSUPDATE ; SWACTCI ; STATUSCHECK

- b. Ensure the STATUSCHECK passes (both sides match).  
*If STATUSCHECK fails, investigate and correct any hardware mismatches and any devices not OK or OFFLINE. Once all problems have been corrected, rerun STATUSCHECK and ensure it passes.*

**Note:** The operating company is responsible for changing Active side device states, and the Applicator is responsible for the Inactive side devices.

---

### 8.4.7 Procedure 7 - Revert

- 1 **Site and App/INACT** Ensure Inactive side is *unjammed*.

---

- 2 **App/ACT** Wait a *minimum* of 10 minutes after the *completion* (flashing A1) of the last RESTART on the Inactive side before entering the ABORTSWACT, ABORTSWCT, or RESTARTSWCT command.

**CAUTION**

**FAILURE TO WAIT AT LEAST 10 MINUTES may result in the office doing a restart reload instead of a controlled SWACT.**

Remember, a STATUSCHECK or MATELINK RTS FORCE can each cause a mate restart.

- 
- 3 **App/ACT** INTERNATIONAL offices switch CC activity (SWACT) as follows. *All others go to the next step.*  
**Note:** This step is valid if International Common Basic is built into the load.  
> INTLSWCT ; DATE ; RESTARTSWCT *{only for INTL offices}*

---

  - 4 **App/ACT** ALL OTHER offices (not INTL) switch CC activity (SWACT) with CC WarmSWACT as follows.  
> BCSUPDATE ; SWACTCI ; DATE ; ABORTSWACT

**CAUTION**

**The ABORTSWACT command has an option called NOCHECK which will allow the CC WarmSWACT to continue even if there are bad devices on the Active side (such as a CBSY LTC).**

Use the NOCHECK option *only* as a last resort and with special care taken to ensure office integrity (contact SWACT\_BASE Support).

*Response varies with PCL level, but the following is a typical example.*

```
ACTIVE DEFAULT SETTINGS:
FORCESWACT set ON
LOADEXECS set ON
NOMATCH set OFF
Do you wish to continue?
Please confirm ("YES" or "NO"):

...Starting WarmSWACT now.
```

---

—continued—

**Procedure 7**  
**Revert (continued)**

- 5 Site/ACT** Monitor the SWACT, and inform the Applicator as soon as the Active side processor is flashing A1.

**CAUTION**

**Work quickly to complete the procedures that follow.**  
The POSTSWACT steps will verify that the office is functioning normally with the old software load.

---

### 8.4.8 Procedure 8 - Start POSTSWACT Revert

**CAUTION**

After a CC WarmSWACT *do not* JAM the Inactive CPU RTIF.  
The system requires the JAM status to be clear on both CPUs in order to recover successfully. Recovery is indicated with a SWCT 101 log.

- 1 App/ACT** After ABORTSWACT, perform the following steps.

Type:

<break>

?LOGIN

Enter username and password

*{system response}*

> <username> <password>

OR > <username>

> <password>

- 
- 2 App/ACT** Verify the DATE and time are correct.

> DATE

- 
- 3 *IMPORTANT:*** Instruct the operating company to perform a 911 test call. If the test call fails to complete contact Nortel Networks Emergency Recovery immediately. **Do not continue.** If the test call is successful continue.

- 
- 4** Reset the TABXFR process.

> TABXFR;CANCEL

> Y

*{for confirmation}*

> QUIT

---

—continued—

**Procedure 8**  
**Start POSTSWACT Revert (continued)**

**5 App/ACT Start POSTSWACT.**

> BCSUPDATE ; POSTSWACT

**Note:** POSTSWACT runs all steps required after the switch of activity and sets them as “complete” when they pass. If any step fails to complete, POSTSWACT will stop and give additional information. Use the information given to investigate and correct the problem. After making corrections, continue running POSTSWACT by typing:

> POSTSWACT *{still in BCSUPDATE}*

If no problems are encountered, POSTSWACT stops after step BEGIN\_TESTING and waits until the operating company verifies the sanity of the current software load.

---

**6 IMPORTANT:** After starting POSTSWACT, ensure the following actions take place:

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

### 8.4.9 Procedure 9 – Recover DIRP and Billing

**Site and App/ACT POSTSWACT** recovers PRIMARY (regular) billing subsystems such as AMA, SMDR, OCC, CDR and AFT. Confirm that affected DIRP subsystems were successfully activated. If billing is on tape (MTD) manually assign the STANDBY volumes. Then site may manually bring up PARALLEL subsystem(s) as required.

1 > MAPCI ;MTC ;IOD ;DIRP  
> QUERY AMA ALL *{note which volume is ACTIVE}*

---

2 If DPP or BMC, call downstream processing to POLL billing data. (Polling is optional. It may also be done after test calls are completed.)

---

3 Remount TAPEX volumes using the DIRP MNT command.

---

4 As needed, assign STANDBY billing devices for TAPE and DPP/BMC.

---

5 If using SMDR, rotate the SMDR volume from the DIRP level of the MAP (this will ensure the RECORD HEADER is correct). If SMDR recording is on BMC and no standby volume is available, then mount a temporary STDBY TAPE volume. Rotate the BMC port OUT and back IN. Remove the tape volume after this is done.

**Note:** Since some SMDR recording applications on BMC collect SMDR records based on the customer group ID only, this ensures that any changes to the customer group IDs are passed to the BMC upon rotate (and the RECORD HEADER is correct).

---

6 If using AFT, ensure process has started and all Active AFT sessions are in SENDING state. If needed, start AFT sessions manually.

> AFT  
> STARTAFT <aft\_session>  
> QUERYAFT <aft\_session> *{verify "SENDING" in status bar}*  
> QUIT

---

7 As needed, bring up PARALLEL devices.

---

8 Verify all regular and parallel devices are working for all available billing subsystems in DIRP.

---

### 8.4.10 Procedure 10 - Monitor Logs after Revert

- 1 **App/INACT** Monitor LOGS after the Revert then do a LOGCHECK.

**Note:** The purpose of this step is to turn on *Active-side* logs at the terminal designated as the "INACT" device (since POSTSWACT is running on the ACT device). Any other terminal device may also be used. Logs can also be routed to a printer for the remainder of this session.

- a. > LOGUTIL;OPEN SWCT;BACK ALL  
*This prints out SWACT time, SWACT duration and other SWACT information.*
  - b. > LOGUTIL;START  
*This starts logs on "this" device. If a different terminal device is desired, then use >STARTDEV <device\_name>.*
  - c. Let logs run for at least 30 minutes, then run LOGCHECK.  
> LOGUTIL;STOP;QUIT  
> BCSUPDATE;LOGCHECK;QUIT
  - d. When LOGCHECK is done, start logs again and let run until monitoring is completed. (Repeat substep b.)
-

#### 8.4.11 Procedure 11 - Perform Test Calls Revert

- 1 **Site/ACT** Verify all Emergency Services are functioning.  
Then, perform the TEST CALLS that were identified ahead-of-time.  
Refer to the *Test Call Scripts*.

---
- 2 **Site and App/INACT** If asked to do so by technical support and only with approval, dump an image of the Inactive (mate) side.  
Only after this mate image is completed should the processors be put back in sync (next procedure).

---



### 8.4.12 Procedure 12 – Complete Testing and SYNC SuperNode

#### **IMPORTANT!—for CM card changes:**

**If aborting a ONP/CM Card Replacement**—Once the operating company and Nortel Networks agree all tests have passed satisfactorily, the Applicator must wait to allow the on-site **Installer** to complete the following step:

- re-install the original hardware on the Inactive side CM shelf
- SYNC the switch when done
- return switch to the **Applicator** (who will complete POSTSWACT, steps 1.b and 1.c below)

**1 App/ACT** POSTSWACT will STOP at step BEGIN\_TESTING to allow the site to complete testing. When testing is complete, SYNC the CM processors as follows.

**Note:** Do not enter POSTSWACT again until the processors are in SYNC.

**a.** > MAPCI ;MTC ;CM ; SYNC  
> YES *{for confirmation}*  
> QUIT MAPCI

**b.** > REXTEST SUSPEND ALL

If in PRSM on CSP06

> AUTOPROC ALL STOP ;AUTOPROC ALL DELAY

These commands allow final activities to occur without interruption, including dumping an image of the new PCL.

**c.** > POSTSWACT *{still in BCSUPDATE}*

At this point BCSUPDATE will run the remaining POSTSWACT steps and set them to “complete” when they pass. If any step fails, follow given instructions to correct the problem, then continue by typing: POSTSWACT.

---

### 8.4.13 Procedure 13 - Finish POSTSWACT Revert

- 1 **App/ACT** Clean up SFDEV by erasing any application-related files (for example: FEATDATA, SITEINFO, and DIRP\_INAC).

---
- 2 **Site/ACT** For security the operating company should verify passwords for users ADMIN and OPERATOR.

---
- 3 **Site/ACT** Reassign all current PROFILE information (LOGIN or RESTART) in SFDEV.

---
- 4 **Site/ACT** Reassign any temporary log ROUTING setup via LOGUTIL.

---
- 5 **App/ACT** If table PADNDEV was manually changed for mate-side patching, restore the original data in this table to point to the correct patch download device(s).

---
- 6 **Site/ACT** Reassign any changes in the INTEG level of the MAP (for example, UPTH, BUFFSEL, FILTER and others).

---
- 7 **Site/ACT** Return PORTS and USER information back to original values.

---
- 8 **Site/ACT** Notify DNC end users to LOGIN the DNC.

---
- 9 **Site/ACT** If Network Management code blocking was removed earlier, have Network Maintenance personnel restore code blocking active.

---

#### 8.4.14 Procedure 14 - Start journal file

- 1 **Site/ACT** If equipped, start journal file and verify started.
    - a. > JF START
    - b. > MAPCI;MTC;IOD;DIRP
    - c. > QUERY JF ALL  
*QUERY JF should respond with "AVAIL." If a standby device is being used, both Active and standby volumes should be marked "AVAIL."*
    - d. > QUIT ALL
-

### 8.4.15 Procedure 15 - Reset AutoONP steps

- 1 **App/ACT** Cancel the SWUPGRADE process and reset the AutoONP steps on the current load to their original configuration.

> SWUPGRADE ; CANCEL

*Two confirmations will be required to continue.*

> YES

> YES

---

- 2 **ATTENTION: Watch the output messages on the TRACE DEVICE!**  
The "Trace Device" will output messages informing the operator what steps are being rolled back. Upon getting the messages:

*The SWUPGRADE process has paused. Enter GO or  
Type GO to resume CANCEL*

The operator must type "GO" and press return on the ACT terminal until getting the message:

*SWUPGRADE CANCEL is completed.  
You may now QUIT out of the SWUPGRADE increment.*

---

- 3 **App/ACT** Quit the SWUPGRADE increment.

> QUIT

---

- 4 **App/ACT** Verify that tuple DUMP\_RESTORE\_IN\_PROGRESS is set to "N" in table OFCSTD.

> TABLE OFCSTD

> POS DUMP\_RESTORE\_IN\_PROGRESS

*If not "N" already, do:*

> RWOK ON ; OVE ; VER OFF

> CHA 2 N

> QUIT ALL

---

**End of Revert to CSP06 procedure.**

## 8.5 Emergency Abort for SuperNode CM/SLM

This section details the procedures required to Revert (SWACT back) a DMS SuperNode CM/SLM switch **without regard to preserving stable call processing**. Do not perform the following procedure if a controlled Revert is required after the switch of activity (SWACT) to the new load. If a controlled Revert is required, perform either the "Revert back to CSP07 and higher loads" or the "Revert back to CSP06 load" procedure (see section 8.1).

**ATTENTION:** This procedure is not applicable to SuperNode XA-Core

**REMINDER:** The CPU with the new software load is now *Active*. You will be reverting back to the old software load that is now *Inactive*.

### CAUTION

Perform the following steps only if a decision has been reached to activate the old load without regard to preserving stable call processing.

#### 8.5.1 Procedure 1 - Before EABORT

- 1 **Site** Do not proceed until both the Operating Company and Nortel Networks on-line support agree.

---

- 2 **Site** Contact high profile customers and customers with essential services (that is, police and emergency bureaus, hospitals, and radio stations) to verify they are not in emergency call processing mode.

---

## 8.5.2 Procedure 2 - Restart Inactive EABORT

### CAUTION

Do not perform step 1 (below) if the restart reload on the Inactive side was already done and the Inactive processor is flashing A1.

- 1 **Site/INACT** Perform a restart reload on the Inactive side processor (old PCL software load).
    - a. From the CM MAP level, ensure the Inactive processor is *not* under test (ut). If it is, WAIT FOR THE TESTING TO COMPLETE.
    - b. From the Inactive RTIF perform a restart reload on the *Inactive* processor (old load).

```
RTIF> \RESTART RELOAD
RTIF> YES {for confirmation}
```
    - c. Allow initialization on the Inactive side. Inform the Applicator when the Inactive side processor is flashing A1.
- 
- 2 **App/INACT** Confirm that the Inactive processor is flashing A1.
-

### 8.5.3 Procedure 3 - Cold SWACT SuperNode

- 1 **Site and App/INACT** Ensure Inactive side is *unjammed*.

---
- 2 **Site/ACT** JAM the *Active side* to force a switch of activity (cold SWACT).  
RTIF> \OVERRIDE  
RTIF> \JAM  
RTIF> YES *{for confirmation}*

---
- 3 **Site/ACT** Monitor the SWACT, and inform the Applicator when the Active side processor is flashing A1.  
*At this point the CC switch of activity is over.*

---
- 4 **Site and App/ACT** *Work quickly to complete the next procedure.* The *POSTSWACT* procedure checks that the office is functioning as normal.  
**Note:** Notify appropriate levels of support of the EABORT before putting the office back in SYNC.

### 8.5.4 Procedure 4 - Start POSTSWACT EABORT

- 1 **App/ACT** After EABORT, perform the following steps.

Type:

<break>

?LOGIN

Enter username and password

*{system response}*

> <username> <password>

or > <username>

> <password>

---

- 2 Verify the DATE and time are correct.

> DATE

---

- 3 ***IMPORTANT:*** Instruct the operating company to perform a 911 test call. If the test call fails to complete contact Nortel Networks Emergency Recovery immediately. **Do not continue.** If the test call is successful continue.
- 

- 4 Reset the TABXFR process.

> TABXFR;CANCEL

> Y

*{for confirmation}*

> QUIT

---

—continued—



**Procedure 8**  
**Start POSTSWACT EABORT (continued)**

**5 App/ACT Start POSTSWACT.**

> BCSUPDATE ; POSTSWACT

**Note:** POSTSWACT runs all steps required after the switch of activity and sets them as “complete” when they pass. If any step fails to complete, POSTSWACT will stop and give additional information. Use the information given to investigate and correct the problem. After making corrections, continue running POSTSWACT by typing:

> POSTSWACT *{still in BCSUPDATE}*

If no problems are encountered, POSTSWACT stops after step BEGIN\_TESTING and waits until the operating company verifies the sanity of the current load.

---

**6 IMPORTANT:** After starting POSTSWACT, ensure the following actions take place:

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

### 8.5.5 Procedure 5 - Recover DIRP and Billing

**Site and App/ACT POSTSWACT** recovers PRIMARY (regular) billing subsystems such as AMA, SMDR, OCC, CDR and AFT. Confirm that affected DIRP subsystems were successfully activated. If billing is on tape (MTD) manually assign the STANDBY volumes. Then site may manually bring up PARALLEL subsystem(s) as required.

1 > MAPCI ;MTC ;IOD ;DIRP  
> QUERY AMA ALL *{note which volume is ACTIVE}*

---

2 If DPP or BMC, call downstream processing to POLL billing data. (Polling is optional. It may also be done after test calls are completed.)

---

3 Remount TAPEX volumes using the DIRP MNT command.

---

4 As needed, assign STANDBY billing devices for TAPE and DPP/BMC.

---

5 If using SMDR, rotate the SMDR volume from the DIRP level of the MAP (this will ensure the RECORD HEADER is correct). If SMDR recording is on BMC and no standby volume is available, then mount a temporary STDBY TAPE volume. Rotate the BMC port OUT and back IN. Remove the tape volume after this is done.

**Note:** Since some SMDR recording applications on BMC collect SMDR records based on the customer group ID only, this ensures that any changes to the customer group IDs are passed to the BMC upon rotate (and the RECORD HEADER is correct).

---

6 If using AFT, ensure process has started and all Active AFT sessions are in SENDING state. If needed, start AFT sessions manually.

> AFT  
> STARTAFT <aft\_session>  
> QUERYAFT <aft\_session> *{verify "SENDING" in status bar}*  
> QUIT

---

7 As needed, bring up PARALLEL devices.

---

8 Verify all regular and parallel devices are working for all available billing subsystems in DIRP.

---

### 8.5.6 Procedure 6 - Monitor logs after EABORT

- 1 **App/INACT** Monitor LOGS after the SWACT then do a LOGCHECK.

**Note:** The purpose of this step is to turn on *Active-side* logs at the terminal designated as the "INACT" device (since POSTSWACT is running on the ACT device). Any other terminal device may also be used. Logs can also be routed to a printer for the remainder of this session.

- a. > LOGUTIL;OPEN SWCT;BACK ALL  
*This prints out SWACT time, SWACT duration and other SWACT information.*
  - b. > LOGUTIL;START  
*This starts logs on "this" device. If a different terminal device is desired, then use >STARTDEV <device>.*
  - c. Let logs run for at least 30 minutes, then run LOGCHECK.  
> LOGUTIL;STOP;QUIT  
> BCSUPDATE;LOGCHECK;QUIT
  - d. When LOGCHECK is done, start logs again and let run until monitoring is completed. (Repeat substep b.)
-

### 8.5.7 Procedure 7 - Perform Test Calls EABORT

- 1 **Site/ACT** Verify all Emergency Services are functioning.

Then, perform the TEST CALLS that were identified ahead of time.  
Refer to the *Test Call Scripts*.

---

- 2 **Site and App/INACT** If asked to do so by technical support and only with approval, dump an image of the *Inactive* (mate) side.

Only after this mate image is completed should the processors be put back in sync (next procedure).

---

## 8.5.8 Procedure 8 – Complete Testing and SYNC SuperNode

### **IMPORTANT!—for CM card changes:**

**If aborting a ONP/CM Card Replacement**—Once the Operating Company and Nortel Networks agree all tests have passed satisfactorily, the Applicator must wait to allow the on-site **Installer** to complete the following step:

- re-install the original hardware on the Inactive side CM shelf
- SYNC the switch when done
- return switch to the **Applicator** (who will complete POSTSWACT, steps 1.b and 1.c below)

**1 App/ACT** POSTSWACT will STOP at step BEGIN\_TESTING to allow the Site to complete testing. When testing is complete, SYNC the CM processors as follows.

**Note:** Do not enter POSTSWACT again until the processors are in SYNC.

**a.** > MAPCI ;MTC ;CM ; SYNC  
> YES *{for confirmation}*  
> QUIT MAPCI

**b.** > REXTEST SUSPEND ALL

If in PRSM on CSP06 and higher:

> AUTOPROC ALL STOP ;AUTOPROC ALL DELAY

These commands allow final activities to occur without interruption, including dumping an image of the new PCL.

**c.** > POSTSWACT *{still in BCSUPDATE}*

At this point BCSUPDATE will run the remaining POSTSWACT steps and set them to “complete” when they pass. If any step fails, follow given instructions to correct the problem, then continue by typing: POSTSWACT.

---

### 8.5.9 Procedure 9 - Finish POSTSWACT EABORT

- 1 **App/ACT** Clean up SFDEV by erasing any application-related files (for example: FEATDATA, SITEINFO, and DIRP\_INAC).

---
- 2 **Site/ACT** For security the operating company should verify passwords for users ADMIN and OPERATOR.

---
- 3 **Site/ACT** Reassign all current PROFILE information (LOGIN or RESTART) in SFDEV.

---
- 4 **Site/ACT** Reassign any temporary log ROUTING setup via LOGUTIL.

---
- 5 **App/ACT** If table PADNDEV was manually changed for mate-side patching, restore the original data in this table to point to the correct patch download device(s).

---
- 6 **Site/ACT** Reassign any changes in the INTEG level of the MAP (for example, UPTH, BUFFSEL, FILTER and others).

---
- 7 **Site/ACT** Return PORTS and USER information back to original values.

---
- 8 **Site/ACT** Notify DNC end users to LOGIN the DNC.

---
- 9 **Site/ACT** If Network Management code blocking was removed earlier, have Network Maintenance personnel restore code blocking active.

---

### 8.5.10 Procedure 10 - Start journal file

- 1 **Site/ACT** If equipped, start journal file and verify started.
    - a. > JF START
    - b. > MAPCI;MTC;IOD;DIRP
    - c. > QUERY JF ALL  
*QUERY JF should respond with "AVAIL." If a standby device is being used, both Active and standby volumes should be marked "AVAIL."*
    - d. > QUIT ALL
-

### 8.5.11 Procedure 11 - Reset AutoONP steps

- 1 **App/ACT** Cancel the SWUPGRADE process and reset the AutoONP steps on the current load to their original configuration.

> SWUPGRADE ; CANCEL

*Two confirmations will be required to continue.*

> YES

> YES

---

- 2 ***ATTENTION: Watch the output messages on the TRACE DEVICE!***  
The "Trace Device" will output messages informing the operator what steps are being rolled back. Upon getting the messages:

*The SWUPGRADE process has paused. Enter GO or  
Type GO to resume CANCEL*

The operator must type "GO" and press return on the ACT terminal until getting the message:

*SWUPGRADE CANCEL is completed.  
You may now QUIT out of the SWUPGRADE increment.*

---

- 3 **App/ACT** Quit the SWUPGRADE increment.

> QUIT

---

- 4 **App/ACT** Verify that tuple DUMP\_RESTORE\_IN\_PROGRESS is set to "N" in table OFCSTD.

> TABLE OFCSTD

> POS DUMP\_RESTORE\_IN\_PROGRESS

*If not "N" already, do:*

> RWOK ON ; OVE ; VER OFF

> CHA 2 N

> QUIT ALL

---

**End of Emergency Abort procedure.**



# 9 AutoONP BULLETINS file guide

---

## 9.1 Target Audience

This section is designed as a guide for people who write and maintain the AutoONP BULLETINS file. The BULLETINS file is used to automate many of the ONP application bulletins and workarounds. This guide gives a quick overview of the AutoONP design approach and then describes how to maintain the BULLETINS file.

## 9.2 Contents

This section is composed of the following subsections. Search for these headings to find the required information.

AutoONP Summary

Design Approach

The BULLETINS File

Design of the BULLETINS File

Complete Example

## 9.3 AutoONP Summary

AutoONP was designed to automate many of the ONP steps used to perform the software upgrade on a DMS SuperNode switch. The Pre-Base07 ONP procedures require the applicator to issue about 150 manual commands and monitor their execution.

During the investigative phase all ONP steps were reviewed, which resulted in a reduction of required steps from 150 to about 60. Many steps were either obsolete or not required by the automated process.

AutoONP now maintains and executes the roughly 60 steps required to perform an ONP, from drop-sync to re-sync. Most steps are fully automated. There are, however, about 20 steps that require some form of manual interaction. Most of these are just confirmations, prompting the user before continuing a critical step. For a complete list of steps, refer to the AR1803 HLD document.

AutoONP is available if the dump-side is CSP06/Base07 and higher and is fully compatible with the traditional ONP process. All tools required to run the traditional process are still in place.

## 9.4 Design Approach

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

The CI interface (alias SWUPGRADE) provides a user interface to control execution. It is non-blocking, i.e. the interface is always available to accept commands, even if a step is currently executing.

Steps are executed by the driver process. It receives messages from the CI to continue execution (GO, CONTINUE or RESUME) or to execute a specific step (RUNSTEP).

All step output is sent to the trace device (even if the step executes CI-commands). It is NOT possible for steps to read input from the terminal.

Steps can either be Protel procedures or CI-commands. CI-commands cause the driver process to tell the Disconnected User process to execute the command.

Steps can be set to execute either on the Active CM, Inactive CM or both at the same time. However, the Active side driver process is the one in control over the step execution sequence and handling of errors and other unexpected events.

In order to allow the process to handle configuration data (such as the name of the trace device, image name for ldmate, etc.), a set of about 15 environment variables are maintained to store this data. Environment variables are prompted for in the first step (SETUP\_ENV\_VARS) and their values are available to steps executing both on the Active or Inactive CM.

## 9.5 The Bulletins File

The BULLETINS file is designed to provide automation to application bulletins and workarounds. It is a SOS exec that is read by step READ\_BULLETINS, which is executed by AutoONP towards the beginning of the process. The functionality of the READ\_BULLETINS step is equivalent to the CI-commands:

```
SEND SINK;LISTSF ALL;SEND PREVIOUS;READ BULLETINS
```

This file must be maintained by the application group and must be downloaded to the switch's SFDEV during or before execution of AutoONP.

Step DOWNLOAD\_FILES reminds the user to download this file (along with other required files). Note that this file must be named BULLETINS and reside on SFDEV.

Since the file is READ at the time READ\_BULLETINS is executed, it can be used to perform two types of functions:

- Execute CI-commands directly at that point. We suggest that a version number is printed to the trace device.
- Contain commands to INSERT CI-commands into the AutoONP process relative to existing AutoONP steps.

## 9.6 Design of the BULLETINS File

The BULLETINS file must have the following structure:

```
PRINT 'Processing BULLETINS file version 1.2'
PRINT ''
SWUPGRADE
<CI-command>
<CI-command>
...
...
QUIT
SETRC SUCCESS
READ PREVIOUS
```

NOTE that the 'SETRC SUCCESS' and the 'READ PREVIOUS' on the last line of the file are VERY important, otherwise step READ\_BULLETINS will fail.

The PRINT with the file version at the top of the file ensures that the trace device output shows which version of the file was actually run.

Typically, the BULLETINS file will be used to insert new steps into the AutoONP step list. These steps can perform one of two functions:

- They can execute a specific set of CI-commands.
- They can remind the user to perform a workaround and then pause the process until the workaround is completed.

Some workarounds simply need to execute a specific CI-command. For example, it is determined that the CI-command 'REXTEST SUSPEND ALL' should be executed before step STOP\_JOURNAL\_FILE. Currently, the

above command is NOT part of the AutoONP process. You would include the following lines in the BULLETINS file:

```
INSERT REXTEST_SUSPEND BEFORE STEP STOP_JOURNAL_FILE ACT
REXTEST SUSPEND ALL
SETRC SUCCESS
ENDINSERT
```

This would execute 'REXTEST SUSPEND ALL' before step STOP\_JOURNAL\_FILE.

'INSERT' tells SWUPGRADE to insert a new step.

'REXTEST\_SUSPEND' will be the name of the new step.

'BEFORE STEP STOP\_JOURNAL\_FILE' tells SWUPGRADE to insert the new step before the existing step STOP\_JOURNAL\_FILE ('BEFORE' can be replaced with 'AFTER').

'ACT' tells SWUPGRADE to run the step on the Active side of the switch ('ACT' can be replaced with 'INACT' to indicate that the step should be run on the Inactive side of the switch. Obviously, 'INACT' only makes sense for steps inserted somewhere between existing steps MATELINK\_RTS and SWACT).

The INSERT command is then followed by a list of CI-commands to execute ('REXTEST SUSPEND ALL' in this case).

The SETRC command is a special command to set the return code of the step. This return code is passed back to SWUPGRADE and determines the action taken after the step executes. The values allowed for SETRC are:

|              |                                                   |
|--------------|---------------------------------------------------|
| SUCCESS      | — step succeeded, continue on to next step        |
| PAUSE_FAIL   | — step failed, re-execute after 'GO'              |
| PAUSE_REPEAT | — step succeeded, but still re-execute after 'GO' |
| PAUSE_SKIP   | — step succeeded, but pause after the step        |

'ENDINSERT' tells SWUPGRADE that all commands for this new step have been entered. Essentially, all CI-commands between the 'INSERT' and the 'ENDINSERT' will become part of the new step. After typing DISPLAY

STEPS within SWUPGRADE, the new step should be displayed, along with its CI-commands.

You may place multiple CI-commands on the same line, separated by semicolons (";"). If there are CI-commands that require user confirmation (YES/NO), simply put "YES" on the line following the command that requires the confirmation.

You may 'quit' out of the middle of a sequence of ci-cmds (usually within some if-then-else clause) by using the following syntax:

```
SETRC <code> (SUCCESS, PAUSE_FAIL, PAUSE_REPEAT or PAUSE_SKIP)
READ PREVIOUS
```

Some workarounds cannot be automated as in the above example. In this case, you want to insert a step that prints messages to the trace device, informing the user to perform some function, followed by a pause. Include the following lines in the BULLETINS file:

```
INSERT CHECK_NNASST AFTER STEP TABLE_TRANSFER ACT
PRINT 'Please check for datafill failures in table NNASST.'
PRINT 'Correct any possible problems after contacting the'
PRINT 'site personnel.'
SETRC PAUSE_SKIP
ENDINSERT
```

This would print the messages shown on the trace device and then pause the SWUPGRADE process after CHECK\_NNASST has completed.

You may also put more complicated commands into inserted steps. The following example will work:

```
INSERT CHECK_CRSFMT AFTER STEP CHECK_NNASST INACT
SEND SINK; ERASE A B C D; SEND PREVIOUS; FALSE -> D
SEND SINK;TABLE CUSTAB;SEND PREVIOUS;
(LOC CRSFMT) -> A
QUIT
IF (A) THEN (SEND SINK;TABLE CRSFMT;SEND PREVIOUS;
(LOC AMA) -> B
IF (B) THEN (ASSIGN FORMAT C;
```

```
(C = ' BCFMT ') -> D;))
IF (D) THEN (PRINT 'The tuple is set to BCAMA.') ELSE (
PRINT 'The tuple either is not present or not set to bcama.';
SETRC PAUSE_SKIP)
QUIT
ENDINSERT
```

## 9.7 Complete Example

Combining the above examples into a complete BULLETINS file would look like this:

```
PRINT 'Processing BULLETINS file version 1.2'
PRINT ' '
SWUPGRADE
%
INSERT REXTEST_SUSPEND BEFORE STEP STOP_JOURNAL_FILE ACT
REXTEST SUSPEND ALL
SETRC SUCCESS
ENDINSERT
%
INSERT CHECK_NNASST AFTER STEP TABLE_TRANSFER INACT
PRINT 'Please check for datafill failures in table NNASST.'
PRINT 'Correct any possible problems after contacting the'
PRINT 'site personnel.'
SETRC PAUSE_SKIP
ENDINSERT
%
INSERT CHECK_CRSFMT AFTER STEP CHECK_NNASST INACT
SEND SINK; ERASE A B C D; SEND PREVIOUS; FALSE -> D
SEND SINK;TABLE CUSTAB;SEND PREVIOUS;
(LOC CRSFMT) -> A
QUIT
IF (A) THEN (SEND SINK;TABLE CRSFMT;SEND PREVIOUS;
(LOC AMA) -> B
IF (B) THEN (ASSIGN FORMAT C;
(C = ' BCFMT ') -> D;))
IF (D) THEN (PRINT 'The tuple is set to BCAMA.') ELSE (
PRINT 'The tuple either is not present or not set to bcama.';
SETRC PAUSE_SKIP)
QUIT
ENDINSERT
%
QUIT
SETRC SUCCESS
READ PREVIOUS
```

The above file would print the message 'Processing BULLETINS file version 1.2' at the time the BULLETINS file is read (i.e. while step

READ\_BULLETINS is executing) and then insert 3 new steps into the process, with the second step followed by a pause.

Before step STOP\_JOURNAL\_FILE the command 'REXTEST SUSPEND ALL' is executed with the process continuing on to the next step (unless the REXTEST command failed). After TABLE\_TRANSFER, the given message would then be printed to the trace device and the process would pause. The user would manually perform whatever is needed, then REMOVE the pause (REMOVE PAUSE AFTER STEP CHECK\_NNASST) and type GO to continue the process. Step CHECK\_CRSFMT would then test the existence and value of the AMA tuple in table CRSFMT and print an appropriate message.

NOTE that the BULLETINS file MUST NOT contain any blank lines (since the DMS file system prohibits this). Therefore, to make the BULLETINS file more readable, you may use comments ('%') as in the above example.

Ensure that each change to the BULLETINS file is tested before being used on a live site in order to ensure that it does not contain any errors and provides the intended functionality. Also, don't forget to increment the version number in the PRINT command at the top of the file each time a change is made.





# 10 Back-to-Back ONP

---

## 10.1 Introduction

The Back-to-Back ONP is designed to upgrade the PCL release of a switch over two consecutive nights. For example, the first upgrade would be to SN04 and the second or final upgrade to SN06. The overall process for this upgrade strategy differs from the standard ONP and is only available for certain ONP applications based on NA100 wireline PCLs. For more information about what software loads are supported or for ordering and scheduling a Back-to-Back ONP contact your Nortel Networks customer representative.

## 10.2 Upgrade Strategy

The Back-to-Back ONP upgrade strategy provides customers with a two step ONP and a one step PM/firmware upgrade path that offers a less costly and more expedient method of upgrading to Succession based PCLs. Since this upgrade strategy does not comply with the normal three CSP limit rule there are certain restrictions and limitations that apply.

- Available only for certain ONP applications based on NA100 PCLs
- Not available for wireless office upgrades
- Office must be upgraded to final PCL in two consecutive nights
- Baseline hardware must remain in place over both ONP applications
- Supported on CM/SLM and XACORE processor configurations
- No processor change or upgrade allowed over the ONP applications
- Normal TOPS OC network upgrade rules apply
- Message Switch (MS) loading requires PRSU activation in CM
- No data changes permitted between upgrades except via SERVORD
- Office Engineering parameters limited for second upgrade application

## 10.3 Site Preparation

All site preparation requirements for a normal ONP apply to the Back-to-Back ONP. The S/W Distribution Center will ship PM load tapes and PM S/W Release documentation for the second or final PCL load only. The final PCL load tapes for both upgrades will be shipped together. The schedule of events for site readiness is based on the first upgrade application date. This includes the I-45 day notification checklist, I-10 day reminder, and site ready checks. The site ready checks for both PCL upgrades are combined into a single pre-application check.

Prior to the first upgrade the PM software and MS must be updated with loads compatible with the final PCL release. When this occurs, the MS is updated with a load that exceeds the standard 3 CSP limit. This condition is not permitted unless PRSU file SEA87 is applied and activated in the current CM load. Therefore, when updating the MS with a load that is 4 or more CSP levels greater than the current CM load PRSU file SEA87 must be applied and activated in destination CM or the MS will fail to return to service. If the PRSU is not applied to the current CM load contact your Nortel Networks customer service representative.

## 10.4 Application process

The Back-to-Back ONP applications are designed to take place over two consecutive nights using standard S/W Delivery upgrade methods in this document (section 7). If necessary, the standard Revert to previous load procedures will apply. Some minor differences exist during each PCL upgrade and these are listed as follows:

- Only Activatable and Emergency PRSUs released since the final PCL tape manufacture date are applied during the first upgrade. All PRSUs released since the final PCL tape manufacture date are applied during the second upgrade.
- Office engineering parameter changes (i.e. FEATDATA) are permitted for the first PCL upgrade but will not occur during the second PCL upgrade.

After the first PCL upgrade is completed no office data changes are allowed except for those done using the SERVORD utility. After the second PCL upgrade is completed normal office operations is resumed.

# 11 Appendix A: Command Summaries

---

## 11.1 Using TABAUDIT and AUTOTABAUDIT

Checking DMS tables for data inconsistencies before a software upgrade is necessary to ensure all tables have valid data. This is accomplished by either executing manual TABAUDIT for a standard session or by executing AUTOTABAUDIT for a scheduled session of TABAUDIT. Both manual and automated TABAUDIT perform the same checks. 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.

*Note:* References to CSP are equivalent to TL.

**CAUTION**

**When using TABAUDIT review all Customer Service Bulletins and Warnings applicable to the current software load.**

*Attention:* For wireless applications on HLR offices, TABAUDIT or AUTOTABAUDIT should be scheduled to execute during the “off-hours” in order to avoid delays with subscriber provisioning.

## 11.2 TABAUDIT summary

### 11.2.1 About TABAUDIT

TABAUDIT will verify tables by performing a series of data integrity checks. 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, and is implemented via 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 REPORT CLEAR EXECUTE  
AUTO QUIT HELP INFO

In the TABAUDIT increment, for help on a subcommand type:

```
HELP <subcommand>
```

**Note:** The AUTO subcommand is used to enter the AUTOTABAUDIT increment.

To set up a TABAUDIT session, use the INCLUDE command to specify the range of tables to be verified and use the EXECUTE command to activate the session. For example, the following commands will execute TABAUDIT on all tables in the office:

```
> INCLUDE ALL
> EXECUTE
```

When executing TABAUDIT, output is directed to the users terminal until checking is completed. Using the REPORT command results of the data integrity checks can be displayed either in summary format or in detailed format. To see the options type HELP REPORT.

### **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 on each tuple of the table.
```

```
TABAUDIT:
> REPORT ERRORS
To view the TABAUDIT results.
```

```
TABAUDIT:
> QUIT
Leaves the TABAUDIT increment.
```



### 11.2.2 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 to check which tables in DART have been verified by TABAUDIT.

### 11.2.3 About AUTOTABAUDIT

This 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 QUITting out of a standard TABAUDIT session, the user loses that session's parameters. When QUITting 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 cannot 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

In the AUTOTABAUDIT increment, for help on a subcommand type:

HELP <subcommand>

**Note:** Type QUIT to return to the TABAUDIT CI increment.

To set up a scheduled session using the AUTOTABAUDIT process:

1. Use the INCLUDE command to specify the range of tables to be verified.
2. Use the TIMEFRAME command to specify the time frame within which the verification of tables is to be performed.
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 REPORT command in the TABAUDIT directory. This command has five options:

- CHECKED
- NOTCHECKED
- ALL
- INCLUDED
- ERRORS
- CHANGED
- <table\_name>

The report utility's CHECKED function generates a summary file of all tables that have been verified by TABAUDIT. The output can be redirected to a device and filename specified. If a table has errors, the errors will be reported even if the table was last checked more than 30 days ago.

The report utility's NOTCHECKED function generates a list of all tables that have not been verified by TABAUDIT within the previous 30 days. The output can be redirected to a device and filename specified.

If the ALL function is specified, a complete report for all tables in table DART is generated. Both a summary file and a detailed report file of each table that has errors is produced. The output can be redirected to a specified device. If a table has errors, the errors will be reported even if the table was last checked more than 30 days ago.

The INCLUDED function generates a complete report for all tables that have been included. Both a summary file and a detailed report file of each table that has errors is produced. The output can be redirected to a specified device. If a table has errors, the errors will be reported even if the table was last checked more than 30 days ago.

The ERRORS function generates a complete report for all tables that have known errors. A detailed report for each table is produced. The output can be redirected to a specified device.

The CHANGED function generates a complete report for all tables that have been changed since the last audit. The output can be redirected to a specified device.

If a <table name> is specified, a detailed report of that table's data integrity is generated. The output can be redirected to a specified device and filename.

If a table has errors, the errors will be reported even if the table was last checked more than 30 days ago.

### **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.

### 11.2.4 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 &lt;table&gt;

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.

## 11.3 DARTEDIT command syntax

DARTEDIT — Enters the DARTEDIT increment to enable the following commands.

PRINTDART <mode>

Where <mode> can be:

SHORT — Prints a compact listing of tables in DART. (default)

LONG — Lists tables in DART in a single column format.

### Examples:

```
> PRINTDART SHORT
```

```
Table DART:
```

```
000 N DART 001 N OKPARMS 002 E DATASIZE 003 N SYSDATA 004 E OCCNAME
005 E OCCINFO 006 E HNPACONT 007 N OFCSTD 008 N OFCOPT
009 OFCENG 010 E CRSFMT 011 E CLLI 012 E NNASST 013 E SITE
014 E CMSHELF...
```

```
> PRINTDART LONG
```

```
Table DART:
```

```
000 N DART
001 N OKPARMS
002 E DATA SIZE
003 N SYSDATA
004 ED OCCNAME
005 E OCCINFO...
```

## 11.4 DELTA command syntax

The DELTA command is used to display the difference (delta) of a given table that exists on the Active (old) load and Inactive (new) load. This command has been enhanced for offices upgrading from CSP10/Base11 (and higher loads).

### Offices upgrading from CSP09/Base10 (and lower)

The “old” DELTA command will display any tuples that do not match including those that have been change, added, or deleted.

For example:

```
> DELTA OFCSTD
Table OFCSTD
 Tuples do not match. Old Count = 83, New Count = 81.
**ADDED AUDVLOWGREQ 120

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

**OLD CPSTACKSIZE 1504
**NEW CPSTACKSIZE 2000

**ADDED E911_NPD_TO_NPA_CONV_IN_EFFECT N

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

### Offices upgrading from CSP10/Base11 (and higher)

The “new” DELTA command takes into account any requested PARM changes made by the FEATDATA file during the TABXFR process. If the FEATDATA file exists on the new load (Inactive side) SFDEV and the DELTA command is used, the following three scenarios will exist:

- If the new load value "matches" the FEATDATA value there will be no output displayed since there is no "difference."
- If the new load value does not match the FEATDATA value then all three values will be displayed: old, new, and FEATDATA.

Example:

```
**OLD CPSTACKSIZE 1504
**FEATDATA CPSTACKSIZE 2000
**NEW CPSTACKSIZE 1504
```

or

```
**OLD CPSTACKSIZE 1504
**FEATDATA CPSTACKSIZE 1504
**NEW CPSTACKSIZE 2000
```

or

```
**OLD CPSTACKSIZE 1200
**FEATDATA CPSTACKSIZE 1504
**NEW CPSTACKSIZE 2000
```

and

```
**ADDED E911_NPD_TO_NPA_CONV_IN_EFFECT N
**FEATDATA E911_NPD_TO_NPA_CONV_IN_EFFECT Y
```

- If there is no FEATDATA value then the old and new values will be displayed if there is a "difference."

Example:

```
**OLD CPSTACKSIZE 1504
**NEW CPSTACKSIZE 2000
```

and

```
**ADDED E911_NPD_TO_NPA_CONV_IN_EFFECT N
```

**Note:** The FEATDATA file is used by the DELTA command automatically if it exists on the Inactive SFDEV. This occurs for every invocation of DELTA regardless of the table being compared. This ensures any table with tuples in FEATDATA will be handled appropriately.

**Command syntax**

DELTA <table> <delta level> <file option>

Where <table> is the name of the table to be checked. For a sub-table use for the table name:

[<table> SUB <subtable>]

<delta level> can be:

- COUNT — Checks the number of tuples in both tables.
- KEYS — Does a checksum on the keys of the tuples.
- CHECKSUM — Does a checksum on the tuples (default).

And <file option> can be:

- FILE — Sends results to a file on SFDEV called DELTA\$REPORT (default).
- NOFILE — Displays the terminal without creating a file.

On CSP10/Base11 the following option is available:

- NOFEATDATA — Displays the differences between the old and new loads disregarding the featdata information.

**Note:** If the DELTA command is invoked using the COUNT or KEYS delta levels, FEATDATA is not used regardless of inclusion of the NOFEATDATA option.

**OLDDELTA command**

Enhancements to the DELTA command beginning with CSP10/Base11 (and higher) loads make it necessary to use the OLDDELTA command when investigating table differences after an office has SWACTed to the new load but before SYNCing the processors. The OLDDELTA command is only valid on CSP10/Base11 (and higher) loads. Use this command to display table differences between the new load and CSP09/Base10 (and lower) loads. Do not use the “new” DELTA command for this purpose since it will not recognize the old load table(s).

The syntax is similar to the DELTA command above however NOFEATDATA is not an option.

OLDDELTA <table> <delta level> <file option>

## 11.5 TABXFR summary

In BCS35 and higher the TABXFR increment is used to dump and restore tables. This is also known as the “data transfer.”

### 11.5.1 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
```

---



### 11.5.2 TABXFR increment

The TABXFR increment is used to perform the data move portion of a BCS application. The increment consists of the following subcommands:

|        |          |          |         |         |
|--------|----------|----------|---------|---------|
| SETUP  | STARTXFR | XFRFROM  | XFRONLY | HALT    |
| CANCEL | LIMIT    | STOPIF   | STOPXFR | STATUS  |
| RMOUNT | RDEMOUNT | RCOPY    | REPORT  | XREPORT |
| CLEAR  | QUIT     | DATASYNC | DUMP    | TABXFR  |
| HELP   | REASON   |          |         |         |

*Note:* Some commands only available with certain platforms.

From within the TABXFR increment type:

HELP <subcommand>: for further help on a subcommand.

#### TABXFR commands

- TABXFR — Enters the TABXFR increment to enable the following subcommands.
- SETUP <options> — Set up and initialize the type of platform used to perform the table transfers.

Where <options> can be:

- STANDARD — Standard split switch application (default for CM/SLM office configuration).
- XACORE — XA-Core split switch application (default for XA-Core office configuration).
- DUMPONLY — Setup to perform the dump part of the dump and restore. This is for dumping data to disk or tape.
- ACTREST — Perform restore part of the dump and restore (data transfer). This restores data from disk or tape to the Active side (i.e. restore to split cm mode).
- NIL — No platform.
- STOPIF — Set the acceptable number of failures for one table. If the limit is reached the transfer will halt after the current table is finished. If no stopif parameter is specified an unlimited amount will be accepted. The initial default is stopif limit of 1 (Range is 0 to 4294967295).

- LIMIT — Limit the number of failures accepted for one table. If the limit is reached the transfer will halt immediately. If no limit is specified an unlimited amount of errors will be allowed. The initial default is unlimited (Range is 0 to 4294967296).
- STATUS — Displays information about the setup and status of the table transfer process.
- STARTXFR — Start transferring tables after the last completed table. If no tables have yet been transferred it will start at the first table in DART.
- XFRONLY <table\_name> — Transfer one table.
- XFRFROM <table\_name> — Start transferring tables at 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     | — Perform the dump part of the data move with the dumped data being put to the specified device. This command is only valid with the DUMPONLY platform (see SETUP). |
| RMOUNT   | — Mount the device to be used for the Active restore.                                                                                                               |
| RDEMOUNT | — Demount the device being used for the Active restore.                                                                                                             |
| RCOPY    | — Copy file from restore device to SFDEV.                                                                                                                           |
| DATASYNC | — Manipulate the Data Synchronization.                                                                                                                              |
| HALT     | — Halt the transferring of tables after the current table is complete. Alternatively, HALT NOW will halt immediately after the current tuple.                       |

CLEAR <table\_name> — Clear the specified table. This only works with tables that have a transfer type of PHYSICAL in table DART.

STOPXFR <stop\_options> — Manipulate the STOP information of the table transfer.

Where <stop\_options> can be:

BEFORE <table> — set a stop before a table.

AFTER <table> — set a stop after a table.

CLEAR BEFORE <table> — clear a stop before a table.

CLEAR AFTER <table> — clear a stop after a table.

QUERY — query current stops.

CANCEL — Cancel the data transfer. The data transfer cannot be restarted without rebooting the new BCS image.

REPORT — Create a table exception report. Output is to the TRACECI device.

XREPORT — Create a table exception report. Output is to the user's console.

REASON — Data failures during TABXFR can be qualified with up to 60 characters of text. The text will be saved for printout by the XREPORT command of the LBREST platform.

QUIT — EXIT the TABXFR increment.

## 11.6 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     | — | CM platform used to perform upgrades on CM/SLM provisioned offices (CSP06 and higher).  |
| PM     | — | PM platform used to perform automated PM upgrades (CSP07 and higher).                   |
| READY  | — | READY platform used to perform Pre-Application checks (CSP08 and higher).               |
| CMMOCK | — | CMMOCK platform used to perform Mock ONP (CSP11 and higher).                            |
| XAC    | — | XAC platform used to perform upgrades on XACORE provisioned offices (CSP12 and higher). |
| CA     | — | CA platform used to perform upgrades on Compact Call Agent offices (CSP18 and higher).  |

### 11.6.1 SWUPGRADE increment

The SWUPGRADE increment is used to perform an Automated One Night Process (AutoONP) Software Upgrade of a DMS switch. The SWUPGRADE CI-commands described in this section are valid for the CM/SLM and XACORE upgrade targets only. The other SWUPGRADE targets (such as PM) are available with a different subset 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 cancels all work done by SWUPGRADE so far.**  
Once canceled SWUPGRADE has to be re-started. Use the PAUSE command for halting the SWUPGRADE temporarily.

*Note:* The SWUPGRADE driver must be PAUSEd to use CANCEL.

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 blank is displayed.

(CSP06-09)

- 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.

**SWUPGRADE DRIVERRESET command**

Special command available from CI level used to kill the Driver process when necessary. For example, if Driver is running and cannot be PAUSED in order to use other commands such as CANCEL, RESUME/CONTINUE/GO, etc. *Alert: Use this command with caution.*

**11.6.2 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 software upgrade. The tool should be used when preparing for a PCL software 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 may not exist on other 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.

## 11.7 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.”

### 11.7.1 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 peripheral load names and patches. If a volume name is not specified, the file will be placed on SFDEV. If a file name is not specified, PMAUDIT\$FILE will be used.  
 Parms:  
 [<file name> STRING]  
 [<volume 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.

## 11.7.2 PRESWACT Abort procedure

### CAUTION

**The PRESWACT Abort procedure is not applicable if SWUPGRADE was used to perform the ONP application.**  
If using SWUPGRADE to perform the ONP, refer to the appropriate use of the “CANCEL” command to terminate (abort) the application.

When manually performing software upgrades using BCSUPDATE (not SWUPGRADE), it may be necessary to STOP and reschedule the application after TABXFR or PRESWACT has been initiated, but before the switch of activity (SWACT). If this is the case perform the following steps to restore the Active side to its original state.

**1 App/ACT** Reset the TABXFR process:

```
> TABXFR; CANCEL
> YES {for confirmation}
> QUIT
```

**2 App/ACT** For all PCLs perform the following command:

```
> BCSUPDATE; ABORT_PRESWACT
> YES {for confirmation}
> QUIT
```

**3 App/ACT** Verify that all PRESWACT steps are set to “needed”:

```
> BCSUPDATE; STATUS PRESWACT
If all steps are not set to “needed” then
> RESET
> YES {for confirmation}
> QUIT
```

—continued—

**PRESWACT Abort procedure (continued)**

- 4 App/ACT** Verify that tuple DUMP\_RESTORE\_IN\_PROGRESS is set to "N" in table OFCSTD:

```
> TABLE OFCSTD
> POS DUMP_RESTORE_IN_PROGRESS
```

**If not set to "N" then**

```
> RWOK ON;OVE;VER OFF
> POS DUMP_RESTORE_IN_PROGRESS;CHA 2 N
> QUIT ALL
```

---

- 5 App/ACT** For SuperNode CM/SLM Sync the switch or for SuperNode XACORE Unsplit the system:

**For SuperNode CM/SLM:**

```
> MATELINK BSY
> MAPCI;MTC;CM;SYNC
> QUIT ALL
```

**For SuperNode XACORE:**

```
> MATELINK BSY
> TASTOOLCI
> UNSPLIT_SYSTEM
```

**Note:** Unsplitting the switch may take a little while.

```
> QUIT ALL
```

---

- 6 App/ACT** Start the journal file process:

```
> JF START
```

---

## 11.8 CC WarmSWACT summary

SWitch of ACTivity (SWACT) is a generic term referring to a process by which activity is switched between two processors.

“CM SWACT” is the switch of activity between the processors in the Computing Module (CM) of the DMS-Core.

“CC WarmSWACT” refers to a controlled SWACT process where a sequence of steps is executed to ensure minimal degradation call processing.

*Note:* Only “simple” 2-port and echo calls that are in a stable talking state (that is, not in a transition state such as dialing) will survive a CC WarmSWACT. Survival means that the call is kept up until the next signaling message is received (hopefully, for example, a terminate message, but on any other message as well, such as an attempt to use the conference feature). See Appendix B for an optional procedure for testing call survivability over a CC WarmSWACT.

NORESTARTSWACT (NRS) is a type of CM SWACT that avoids a restart of the CM. The service interruption for this option is less than 30 seconds. The use of NORESTARTSWACT is explained below under “CC WarmSWACT commands.”

The three parts in this section are divided as follows:

1. Explanation of CC WarmSWACT and its major steps
2. Explanation of CC WarmSWACT commands
3. Explanation of CC WarmSWACT logs

### 11.8.1 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

### 11.8.2 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, RECETIME).
- 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.

### 11.8.3 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.

# 12 Appendix B: Supplementary Procedures

## 12.1 PRESWACT DIRP and Billing procedures

Where applicable and when prompted to do so by the SWUPGRADE process step "PRESWACT\_DIRP\_AND\_BILLING" prior to switch of activity (SWACT), perform procedures 1-8. Site and Applicator can work together to prepare the PRIMARY DIRP billing subsystems for the office SWACT:

If the PRIMARY billing is on SDM perform procedure 1  
 If the PRIMARY billing is on DPP/BMC perform procedure 2  
 If the PRIMARY billing is on DISK perform procedure 3  
 If the PRIMARY billing is on TAPE perform procedure 4  
 If office is using Automatic File Transfer (AFT) perform procedure 5  
 If office is using DRM billing perform procedure 6  
 For all other DIRP billing preparation perform procedure 7  
 For Parallel DIRP preparation see procedure 8

### Procedure 1 - SDM Primary Billing

**ATTENTION:** If office is equipped with SDM billing, ensure the SBA system is not undergoing back-up or recovery during SWACT. No other manual action is required for SDM billing.

If primary billing is on SDM systems, perform the following.  
 Make note of the following information for reference:

```
> TABLE SDMINV
> FORMAT PACK;LIS ALL { confirm site is using SDM }
> QUIT
```

At the MAP level determine the status of any SDMBIL systems:

```
> MAPCI ;MTC ;APPL ;SDMBIL
> STATUS
> QUIT
```

**IMPORTANT:** The status for all SDM billing systems must be INSV or OFFL. If any system is BKUP, BSY, or RCVY you must wait until they go INSV prior to SWACT.

## Procedure 2 - DPP/BMC Primary Billing

If primary billing is on DPP 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 DIRPPPOOL 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.

**Note1:** In a pool of DPP or BMC volumes, field DEVTYPE in table DIRPPPOOL should be DPP (not TAPE).

**Note2:** This step does not apply to other vendors' poll-able devices (such as PDU, CGI, ECU, and others). This step is not for BMC/TAPE COMBO. This step does not apply to parallel volumes.

If **DPP** perform procedure 2a below.

If **BMC** perform procedure 2b below.

### 2a. 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
```

## 2b. 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 3 - Primary Billing on DISK

If primary billing is on a disk perform the following.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY AMA {Note the STANDBY volume}
```

ROTATE any Active billing subsystem (such as AMA SMDR OCC CDR).

*Example:*

```
> ROTATE AMA
> YES
> QUERY AMA {to verify rotated}
```

If required by operating company policy copy unprocessed DIRP files to back-up tape (using DIRPAUTO or DIRPCOPY commands).

Verify that table DIRPHOLD contains no unprocessed billing files (if DIRPAUTO was used above).

---

## Procedure 4 - Primary Billing on TAPE

If primary billing is on a tape perform the following.

```
> MAPCI NODISP;MTC;IOD;DIRP
> QUERY AMA {Note the STANDBY volume}
```

ROTATE any Active billing subsystem (such as AMA SMDR OCC CDR).

*Example:*

```
> ROTATE AMA
> YES
> QUERY AMA {to verify rotated}
```

CLOSE the STANDBY file, and DMNT the STANDBY volume.

*Example:*

```
> CLOSE AMA STDBY 1
> DMNT AMA T1
```

Remove the demounted STANDBY tape from the tape drive, and put up a *new tape* to be used as the next DIRP volume.

Prepare a new STANDBY volume as follows.

```
> MOUNT <x> FORMAT <volume_id>
Where <x> is the STANDBY device number, and <volume_id> is the name of the STANDBY volume.
```

If prompted enter the first filename, or if system response is:  
"request aborted. Tape not expired (use ERASTAPE)"  
then select an unused or expired tape for formatting.

```
> DEMOUNT T<x>
```

Leave the STANDBY volume at load point and ONLINE. Then, immediately after SWACT it will become the ACTIVE volume of the appropriate subsystem.

---

## Procedure 5 - 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 6 - DRM billing preparation

List the mounted volumes related to DRM billing

```
> QUIT ALL
> TABLE DRMPPOOL;FORMAT PACK;LIST ALL;QUIT
```

Make note of the volumes mounted under GCDR, GHOT, and IAA.

On the INACT (mate) side, create a DRMMNT script file to remount the volumes after SWACT to the new load.

*Example:*

```
Mate> EDIT DRMMNT
Mate> INPUT
Mate> MAPCI NODISP;MTC;APPL;OAMAP;DRM
Mate> MOUNT GCDR <volume1> CM <priority>
Mate> MOUNT GCDR <volume2> [cm | fp0] <priority>
Mate> MOUNT GHOT <volume1> CM <priority>
Mate> MOUNT GHOT <volume1> CM <priority>
Mate> MOUNT IAA <volume1> CM <priority>
Mate> MOUNT IAA <volume1> CM <priority>
Mate> QUIT ALL
Mate> [empty line to end the input mode]
Mate> FILE SFDEV
```

**Note:** The DRMMNT script file will be executed on the new load after SWACT to remount and recover the DRM billing.

---

## Procedure 7 - 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 8 - 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.

## 12.2 Recover DIRP and Billing procedure

(CSP06-19): Where applicable, perform this procedure after SWACT when prompted by SWUPGRADE step "RECOVER\_DIRP\_AND\_BILLING".

(CSP20->): Perform this procedure if automated POSTSWACT step "DIRP\_RECOVERY" fails to recover all required DIRP subsystems.

**Site and App/ACT** POSTSWACT recovers PRIMARY (regular) billing subsystems such as AMA, SMDR, OCC, CDR, AFT and GCDR. Confirm that affected DIRP subsystems were successfully activated. If billing is on tape (MTD) manually assign the STANDBY volumes. Then Site may manually bring up PARALLEL subsystem(s) as required.

---

1 > MAPCI ;MTC ;IOD ;DIRP  
> QUERY AMA ALL *{note which volume is ACTIVE}*

---

2 If DPP or BMC, call downstream processing to POLL billing data. (Polling is optional. It may also be done after test calls are completed.)

---

3 Remount TAPEX volumes using the DIRP MNT command.

---

4 As needed, assign STANDBY billing devices for TAPE and DPP/BMC.

**Note:** For details refer to the "PRESWACT DIRP and billing" section.

---

5 If using SMDR, rotate the SMDR volume from the DIRP level of the MAP (this will ensure the RECORD HEADER is correct). If SMDR recording is on BMC and no standby volume is available, then mount a temporary STDBY TAPE volume. Rotate the BMC port OUT and back IN. Remove the tape volume after this is done.

**Note:** Since some SMDR recording applications on BMC collect SMDR records based on the customer group ID only, this ensures that any changes to the customer group IDs are passed to the BMC upon rotate (and the RECORD HEADER is correct).

---

6 If using AFT, ensure process has started and all active AFT sessions are in SENDING state. If needed, start AFT sessions manually.

```
> AFT
> STARTAFT <aft_session>
> QUERYAFT <aft_session> {verify "SENDING" in status bar}
> QUIT
```

---

—continued—

### **Recover DIRP and Billing procedure (continued)**

- 7** If using DRM, Site should now remount the DRM billing volumes by executing the DRMMNT script file.

```
> LISTSF ALL
> READ DRMMNT
```

Verify DRM volumes are mounted and collecting billing.

```
> TABLE DRMPPOOL;FORMAT PACK;LIST ALL;QUIT
> MAPCI NODISP;MTC;APPL;OAMAP;DRM
> MONITOR GCDR
```

- 
- 8** As needed, bring up PARALLEL devices.
- 

- 9** Verify all regular and parallel devices are working for all available billing subsystems in DIRP.
-



## 12.3 Electronic Software Delivery

Electronic Software Delivery (ESD) provides a means to FTP certain software load files to the DMS Core/Call Server. The information in this section provides a procedure to FTP an image file that will successfully boot.

ESD follows the same shipping schedule as other physical media (tapes and CDs). The final PCL file (no-data load) will be electronically delivered 8-7 days prior to the scheduled ONP date. During the final Site Ready check Nortel will validate the presence of the final PCL file on the Core image volume and that the file attribute is set to "I". The final PCL file should be transferred to an image volume prior to the I-5 day Site Ready check.

When a software load file is electronically delivered to a drop box server an email notification will be sent to the identified contacts to confirm delivery. The email will be titled:

"Electronic Delivery Confirmation for THESITEID01 – PRODUCTCODE"

Within the body of the email the order will be referenced as well as the address and directory of the drop box server, the file name, and the size of the file delivered. The file name will be of the format:

PRODUCTCODE.xxX.R.PCL.PPC2.VAULT.X.D.tar.gz

*Example: SN000006.6.R.PCL.PPC2.VAULT.38.D.tar.gz*

**Site/ACT** Perform the following steps to transfer the software load file to the DMS Core/Call Server:

- 1 On the drop box server (or SDM) unzip and un-tar the load file.

```
gunzip <file>.tar.gz {Unzips load file}
tar xvf <file>.tar {Uncompress load file}
cd <file> {Change directory to new load file}
ls {to list and see load file(s)}
```

Example:

```
gunzip SN000008.8.P.PCL.PPC2.VAULT.38.D.tar.gz
tar xvf SN000008.8.P.PCL.PPC2.VAULT.38.D.tar
cd SN000008.8.P.PCL.PPC2.VAULT.38.D
ls
```

---

—continued—

### Electronic S/W Delivery (continued)

- 2 Log into the DMS Core. List the image volume (for example F02LIMAGE) where the load file will be transferred to.

```
> QUIT ALL
> DISKUT
> LF <volume_name>
> QUIT
```

---

- 3 On the DMS Core setup the FTP user.

```
> FTP
> SHOWSVUSERS
> ADDUSERINFO NORTEL NORTEL :/<volume_name> Y
 where <volume_name> is from step 2
> SHOWSVUSERS
> QUIT
```

Example:

ftp:

```
> ADDUSERINFO NORTEL NORTEL :/F02LIMAGE Y
1 SERVER SESSIONS RESERVED
TOTAL NUMBER OF SERVER SESSIONS RESERVED -> 1
BIND USERINFO PASSED

> SHOWSVUSERS
1. Sessions Reserved -> 2 Sessions Active -> 0
 USERNAME: admin DEFAULTDIR: /SFDEV ACTIVE SESSIONS: 0
 ABSOLUTEpathname: yes COMMAND TIMEOUT: forever

2. Sessions Reserved -> 1 Sessions Active -> 0-
 USERNAME: NORTEL DEFAULTDIR: /F02LIMAGE ACTIVE SESSIONS: 0
 ABSOLUTEpathname: yes COMMAND TIMEOUT: forever
```

---

- 4 On the drop box server (or SDM) transfer the load file to DMS Core.

```
FTP <dropbox> {IP address of dropbox server}
 <username> {enter user name}
 <password> {enter user pw}
ftp> BIN {set binary transfer mode}
ftp> PWD {verify current working directory}
ftp> LRECL '1020 IMG' {set record length & image attribute}
ftp> GET '<load_file>' `/<vol_name>/<loadname_order#>'
 {transfer file to image volume on Core}
ftp> BYE {quit ftp}
```

---

—continued—

**Electronic S/W Delivery (continued)**

- 5 On the DMS Core list the image volume to confirm the load file was successfully transferred and validate that the load file is marked with the image attribute ( I ).

```
> QUIT ALL
> DISKUT
> LF <volume_name>
> QUIT
```

**Note 1:** If the image attribute is not set to I the file will not load.

**IMPORTANT:** Do not datafill the ITOC with the no-data image.

**Example:**

```
>LF F02LIMAGE
```

File information for volume F02LIMAGE:

{NOTE: 1 BLOCK = 512 BYTES }

```

FILE NAME O R I O O V FILE MAX NUM OF FILE LAST
 R E T P L L CODE REC RECORDS SIZE MODIFY
 G C O E D D LEN IN IN DATE
 C N FILE BLOCKS

MUC00019539509_MS I F 0 1020 7152 14304 050308
SN000006539509_CM I F 0 1020 204817 409634 050308
```

```
^
```

```
|
```

Image attribute must be set to " I "

## 12.4 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.*

**Note:** For GSM HLR offices certain GHLR tables must be excluded otherwise TABAUDIT may take an extremely long time to complete. See section "TABAUDIT procedure" for a list of GHLR tables to exclude.

**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 the included tables 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 recommends using TABAUDIT as part of normal maintenance practices for regular ongoing table data integrity checks. For more details on TABAUDIT see section “Using TABAUDIT” in Appendix A.*

## 12.5PM 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.

---

## 12.6 MATE 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 load is required.

When dumping a mate image of a TABXFR'ed load it is important to realize that the image you are taking will have all peripherals in an OFFL state; therefore, this image is not BOOTABLE as it will not have the minimum configuration of at least one IOC/IOM and one TERMDEV in an "IN-SERVICE" state. To avoid this problem RTS the minimum configuration manually (steps 5 and 6).

- 1 App/ACT** Prepare the SLM volume to be used to dump the Inactive (mate) image.

```
> DISKUT
> LF S00DIMAGE {example}
```

*Lists the volume on which you want to put the image.*

---
- 2 ACT** From the Active side MATEBIND the SLM volume you have chosen.

```
> MATELINK RTS
> MATEIO
> MATEBIND S00DIMAGE S00DIMAGE {example}
```

---
- 3 ACT** From the Active side MATELOG to the mate side.

```
> MATEIO
> MATELOG <device_name>
```

*Where <device\_name> is the INACT terminal.*

---
- 4 INACT** On the Inactive side LOGIN as OPERATOR ORERATOR.

---
- 5 INACT** Mate> MAPCI;MTC;IOD;IOC 0;BSY IOC {or IOM}  
*Mate MAPCI will not display.*

---
- 6 INACT** On the mate side BSY and RTS the same location that the MAP is datafilled on the Active side (example: CARD 2 PORT 0;BSY 0;RTS 0).  
*The RTS will fail, but this is expected.*

---

—continued—



**Procedure 1**  
**MATE IMAGE capture (continued)****7 INACT**

```
Mate> QUIT MAPCI
```

```
Mate> PRINT MATEIODIR
```

*You should see the file S00DIMAGE in MATEIODIR.*

---

**8 INACT** From the Inactive side DUMP the Inactive (mate) image.

```
Mate> MATEIO
```

```
Mate> DUMP IMAGE S00DIMAGE ACTIVE RETAIN NODE CM {example}
```

*This command will give a couple of messages about not being able to translate the IOC/IOM devices—ignore the messages.*

Wait for image dump to complete.

---

**9 ACT** From the Active side loadmate the mate image just dumped to verify it.

**Note:** LDMATE time will be approximately 10 to 15 minutes.

```
> LDMATE DIRECT DISK S00DIMAGE {example}
```

*Upon completion, system response should be:*

```
DIRECT LDMATE complete.
```

```
Confirm successful initialization on Inactive CPU
before proceeding.
```

*Similarly, the RTIF response is:*

```
\BOOTING...
```

```
Loading completed...
```

*Wait for loading to complete. Initialization is confirmed when the Inactive processor flashes A1.*

---

## 12.7 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

---

## 12.8 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 ONLINE. 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.

## 12.9 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 off hook

**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 off hook.

—continued—



**Procedure 1**  
**Testing call survivability over a CC WarmSWACT (continued)**

As soon as you 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 off hook

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 on hook 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)

---

## 12.10 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” signifies that this is a French BMMI DD

<filetype> will be one of fvocab, evocab, or pbook.

So when listing the contents of the SLM tape, you will likely see something like this:

```
csp04-1.F.fvocab
csp04-1.F.evocab
csp04-1.F.pbook
```

There is a fourth file called “bmmiloadfile” that contains the actual commands to load the BMMI DD. This file is provided in order to simplify the operation of loading of the BMMI DD for the craftsperson. The typical contents of file “bmmiloadfile” are:

```
bmmi
baseload csp04-1.F.fvocab french
baseload csp04-1.F.evocab french
baseload csp04-1.F.pbook french
ispeak french
```

**Note:** Each bmmiloadfile may look slightly different depending on the sequence number and the “csp” number of the generated DD files.

### Manual loading

- To *manually load* the BMMI DD files without using the bmmiloadfile, you must first enter the “bmmi” utility -

```
> BMMI
BMMI :
```

Now you are ready to load the actual files using the “baseload” command -

```
> BASELOAD <filename> FRENCH
```

so, for example, we would enter -

```
> baseload csp04-1.F.fvocab french
```

```
> baseload csp04-1.F.evocab french
```

```
> baseload csp04-1.F.pbook french
```

While still in the “bmmi” utility, activate the French BMMI functionality by using the “ispeak” command -

```
BMMI :
> ISPEAK FRENCH
```

Or, to go back to English enter -

```
> ISPEAK ENGLISH
```

**Note:** This will only affect the terminal that you are using.

---

## Unloading

- Some time it may be necessary to *unload* the DD files. This is accomplished with the “baseunload” command.

You must first enter the “bmmi” utility -

```
> BMMI
BMMI :
```

Now you can unload the files using the command -

```
> BASEUNLOAD <DD_filetype>
```

where the only acceptable filetypes are:

“TVOCAB” (refers to the CSPp04-1.F.fvocab file)

“EVOCAB” (refers to the CSP04-1.F.evocab file)

“PHRASEBOOK” (refers to the CSP04-1.F.pbook file)

For example -

```
> baseunload TVOCAB
```

```
> baseunload EVOCAB
```

```
> baseunload PHRASEBOOK
```

**Note:** The “T” in “TVOCAB” is not a spelling error, rather it stands for Translated VOCAB.

## 12.11 Procedures for HLR Mated-Pair Upgrade

**Note:** Cross Release Mating (XRM) assumes that HLRs in a Mated-Pair are upgraded one after another and not simultaneously.

**Note:** To avoid confusion between the HLR to be upgraded and its Mate, in the following procedures  $HLR_{UPGRADE}$  is used to refer to the HLR being upgraded and  $HLR_{MATE}$  is used to refer to the mate HLR.

### 12.11.1 Minimize outages during Mated-Pair upgrade

To allow synchronization of subscriber data changes during HLR upgrade it is important that all subscribers are acting on  $HLR_{MATE}$  and STANDBY on  $HLR_{UPGRADE}$ . Therefore all subscribers (excluding test subscribers) are to be handed over  $HLR_{UPGRADE}$  to its Mate before upgrade is started on the  $HLR_{UPGRADE}$ . Furthermore all subscribers are to be in Maintenance Blocked state (excluding test subscribers) on the  $HLR_{MATE}$  to avoid sending Mated-Pair updates to  $HLR_{UPGRADE}$  during upgrade.

**Note:** This procedure should be performed during Site Preparation Phase

- 1  **$HLR_{UPGRADE}$**  Handover all subscribers in AWAY partition from  $HLR_{UPGRADE}$  to  $HLR_{MATE}$ .
  - > MAPCI ; MTC ; APPL ; HLR ; HLR\_SBY ; SUBMNG
  - > POST FILTER PRTN AWAY ; HANDOVR ALL
  - Last commands post and hand all subscribers except test ones over  $HLR_{UPGRADE}$  to  $HLR_{MATE}$*
  - > QUIT ALL

- 2  **$HLR_{UPGRADE}$**  If it is desired to perform Mated-Pair tests as part of Critical Call Testing then move test subscribers to the AWAY partition to leave them on the  $HLR_{UPGRADE}$  during upgrade.
  - > TABLE GHLRDATA ; OVE ; VER OFF
  - > POS <MCC> <MNC> <MSIN>
  - > CHANGE PRTN <NUMBER OF AWAY PARTITION>
  - Last 2 commands are to be performed for every test subscriber.*
  - > QUIT

**Note:** Test subscribers also exist on  $HLR_{MATE}$ .

—continued—

**Procedure 1**  
**XRM Upgrade preparation procedure steps (continued)**

**3**    **HLR<sub>UPGRADE</sub>**    Enable Mated-Pair diversion.  
         > MAPCI ; MTC ; APPL ; HLR ; HLRSBY ; RTS DIVERSION  
         > QUIT ALL

---

**4**    **HLR<sub>UPGRADE</sub>**    Handover all subscribers in the HOME partition from  
         **HLR<sub>UPGRADE</sub>** to **HLR<sub>MATE</sub>**.  
         > MAPCI ; MTC ; APPL ; HLR ; HLRSBY ; SUBMNG  
         > POST FILTER PRTN HOME ; HANDOVR ALL  
         *Last commands post and hand all subscribers except test ones over*  
         *HLR<sub>UPGRADE</sub> to HLR<sub>MATE</sub>.*  
         > QUIT ALL

---

**5**    **HLR<sub>UPGRADE</sub>**    Return test subscribers back to HOME partition on **HLR<sub>UPGRADE</sub>**.  
         > TABLE GHLRDATA ; OVE ; VER OFF  
         > POS <MCC> <MNC> <MSIN>  
         > CHANGE PRTN <NUMBER OF HOME PARTITION>  
         *Last 2 commands are to be performed for every test subscriber.*  
         > QUIT  
**Note:** *Test subscribers also exist on HLR<sub>MATE</sub>.*

---

**6**    **HLR<sub>UPGRADE</sub>**    Check that all subscribers on **HLR<sub>UPGRADE</sub>** have ASTATUS set  
         to STANDBY (apart from the test subscribers) and test subscribers are not in  
         Maintenance Blocked state:  
         > MAPCI ; MTC ; APPL ; HLR ; HLRSBY ; SUBMNG  
         > POST FILTER ASTA ACTG  
         *The list of posted subscribers must contain test subscribers only.*  
         *Check that all posted subscribers have BCKS flag set to IDLE.*  
         > QUIT ALL

---

—continued—



**Procedure 1**  
**XRM Upgrade preparation procedure steps (continued)**

- 7 **HLR<sub>MATE</sub>** Set all acting subscribers to Maintenance Blocked state. This avoids Mated-Pair updates sending to HLR which is being upgraded.

**Note:** *Putting all the Acting subs into Maintenance Blocked mode blocks their Mated-pair Standby replication and does not affect "Call Processing" and "Provisioning".*

> MAPCI ; MTC ; APPL ; HLR ; HLRSBY ; SUBMNG

> POST FILTER ASTA ACTG ; BSY ALL

*The list of posted subscribers must contain test subscribers only.  
Check that all posted subscribers have BCKS flag set to IDLE.*

> MAPCI ; MTC ; APPL ; HLR ; HLRSBY ; STATS

*This command helps to confirm the number of subscribers that are Maintenance Blocked.*

> QUIT ALL

---

- 8 **HLR<sub>MATE</sub>** Verify that the test subscribers are the only subscribers that are NOT in a Maintenance Blocked state.

> MAPCI ; MTC ; APPL ; HLR ; HLRSBY ; SUBMNG

> POST FILTER BCKS IDLE ; BSY ALL

*The list of posted subscribers must contain test subscribers only.*

> QUIT ALL

---

## 12.11.2 Set Mated-Pair release and turn Mated-Pair SYNC on

If HLR being upgraded is part of the Mated-Pair configuration then the Mated-Pair synchronization must be restored after upgrade is completed. If the software release on HLR<sub>UPGRADE</sub> and HLR<sub>MATE</sub> is different then the correct 'Mated-Pair Release Version' parameter must be set up on both HLR<sub>UPGRADE</sub> and HLR<sub>MATE</sub> to allow synchronization between both HLRs. The table of the 'Mated-Pair Release Version' parameter values for HLR<sub>UPGRADE</sub> and HLR<sub>MATE</sub> is shown below (it assumes that HLR<sub>UPGRADE</sub> is running on the GSM18 release after upgrade).

|                                   |                                                   | on HLR <sub>UPGRADE</sub> | on HLR <sub>MATE</sub> |
|-----------------------------------|---------------------------------------------------|---------------------------|------------------------|
| Mate HLR software release version | 17<br>First HLR is in the Mated-Pair is upgraded  | GSM17                     | N/A                    |
|                                   | 18<br>Second HLR is in the Mated-Pair is upgraded | GSM18                     | GSM18                  |

Table 2 – Value is to be set to the 'Mated-Pair release version' parameter

- 1 HLR<sub>UPGRADE</sub> Set 'Mated-Pair release version' parameter and turn SYNC back on.

**Note:** The following commands turn SYNC, HANDOVER and DIVERSION on.

```
> TABLE GHLPARM;RWOK ON;OVE;VER OFF
> REP STANDBY STANDBY Y ACTIVE Y Y Y +
> <Mate HLR Number> <Mate HLR release>
```

where <Mate HLR release> is the release running on Mate HLR.

```
> QUIT ALL
```

*Example: If HLR<sub>MATE</sub> is running on gsm17 release:*

```
> REP STANDBY STANDBY Y ACTIVE Y Y Y 611237 GSM17
```

*Example: If HLR<sub>MATE</sub> is running on gsm18 release:*

```
> REP STANDBY STANDBY Y ACTIVE Y Y Y 611237 GSM18
```

—continued—

**Procedure 2**  
**XRM Upgrade preparation procedure steps (continued)**

- 2** **HLR<sub>MATE</sub>** Set 'Mated-Pair release version' parameter and turn SYNC back on.

**ATTENTION:** *This step should only be performed if HLR<sub>MATE</sub> is running on gsm18 release*

```
> TABLE GHLPARM;RWOK ON;OVE;VER OFF
> REP STANDBY STANDBY Y ACTIVE Y Y Y <HLR Number> GSM18
> QUIT ALL
```

---

- 3** **HLR<sub>MATE</sub>** Turn SYNC on.

**ATTENTION:** *This step should only be performed if HLR<sub>MATE</sub> is running on gsm17 release*

```
> TABLE GHLPARM;RWOK ON;OVE;VER OFF
> REP STANDBY STANDBY Y ACTIVE Y Y Y <HLR Number> GSM17
> QUIT ALL
```

---

### 12.11.3 Restore original subscriber Acting configuration

This procedure must be performed after the HLR upgrade is completed if Preparation step to minimize outages during Mated-Pair upgrade procedure is performed prior to the HLR upgrade. As all subscribers have been handed over to HLR<sub>MATE</sub> and all acting subscribers have been Maintenance Blocked there before HLR upgrade then it is important to restore original Mated-Pair configuration which allows restoring geographic redundancy and allows upgrading HLR<sub>MATE</sub> without the window of vulnerability during upgrade.

- 1 HLR<sub>MATE</sub>** Unblock all Acting subscribers to allow changes since the upgrade to be synchronized.

```
> MAPCI ;MTC ;APPL ;HLR ;HLRSBY ;SUBMNG
> POST FILTER ASTA ACTG ;RTS ALL
> QUIT ALL
```

---

- 2 HLR<sub>MATE</sub>** Handover subscribers back to HLR<sub>UPGRADE</sub>.

```
> MAPCI ;MTC ;APPL ;HLR ;HLRSBY ;SUBMNG
> POST FILTER PRTN AWAY ;HANDOVR ALL
This command hands over subscribers (which have PRTN set to AWAY and therefore were handed over to Mate HLR before HLR upgrade) to HLR.
> QUIT ALL
```

---

## 12.11.4 Enable Mated-Pair synchronization during upgrade

Mated-Pair synchronization during upgrade is allowed if the MP\_DURING\_UPGRAD parameter in the GHLRDFLT table is turned on.

- 1 **HLR<sub>UPGRADE</sub>** Enable MP\_DURING\_UPGRADE parameter
    - > TABLE GHLRDFLT;RWOK ON;OVE;VER OFF
    - > REP MP\_DURING\_UPGRAD MP\_DURING\_UPGRAD Y
    - > QUIT
- 

If the procedure Preparation step to minimize outages during Mated-Pair upgrade has not been performed during Site preparation phase then it is important to bring all Acting subscribers (excluding test subscribers) on both HLR<sub>UPGRADE</sub> and its Mate to Maintenance Blocked state otherwise potential loss of service and data inconsistencies could occur in the event of an abort of the HLR.

**Note:** Steps 2 and 3 are not needed if the procedure Preparation step to minimize outages during Mated-Pair upgrade has been performed during Site preparation phase (see Section 3.2.11).

- 2 **HLR<sub>UPGRADE</sub>** Set all acting subscribers (excluding) to Maintenance Blocked state. This avoids Mated-Pair updates sending to HLR<sub>MATE</sub>

**Note:** Putting all the Acting subs into Maintenance Blocked mode blocks their Mated-pair Standby replication and does not affect "Call Processing" and "Provisioning".

- > MAPCI;MTC;APPL;HLR;HLRSBY;SUBMNG
  - > POST FILTER ASTA ACTG;BSY ALL
  - > QUIT ALL
- 

- 3 **HLR<sub>MATE</sub>** Set all acting subscribers to Maintenance Blocked state. This avoids Mated-Pair updates sending to HLR<sub>UPGRADE</sub>.

**Note:** Putting all the Acting subs into Maintenance Blocked mode blocks their Mated-pair Standby replication and does not affect "Call Processing" and "Provisioning".

- > MAPCI;MTC;APPL;HLR;HLRSBY;SUBMNG
  - > POST FILTER ASTA ACTG;BSY ALL
  - > QUIT ALL
-

### 12.11.5 Disable Mated-Pair synchronization during upgrade

After testing HLR as part of the Mated-Pair configuration is completed then the MP\_DURING\_UPGRAD parameter must be turned off.

- 1 **HLR<sub>UPGRADE</sub>** Disable MP\_DURING\_UPGRADE parameter
    - > TABLE GHLRDFLT;RWOK ON;OVE;VER OFF
    - > REP MP\_DURING\_UPGRAD MP\_DURING\_UPGRAD N
    - > QUIT
- 

### 12.11.6 Turn Mated-Pair SYNC off

To turn Mated-Pair sync off perform the following actions on the HLR<sub>UPGRADE</sub> and the HLR<sub>MATE</sub>:

- 1 **HLR<sub>UPGRADE</sub>** Turn SYNC off on HLR<sub>UPGRADE</sub>.
    - > MAPCI;MTC;APPL;HLR;HLRSBY
    - > BSY SYNC
    - > QUIT ALL
- 

- 2 **HLR<sub>MATE</sub>** Turn SYNC off on HLR<sub>MATE</sub>.
    - > MAPCI;MTC;APPL;HLR;HLRSBY
    - > BSY SYNC
    - > QUIT ALL
- 

- 3 **HLR<sub>UPGRADE</sub>** Turn HANDOVER off on HLR<sub>UPGRADE</sub>.
    - > MAPCI;MTC;APPL;HLR;HLRSBY
    - > BSY HANDOVER
    - > QUIT ALL
- 

- 4 **HLR<sub>MATE</sub>** Turn HANDOVER off on HLR<sub>MATE</sub>.
    - > MAPCI;MTC;APPL;HLR;HLRSBY
    - > BSY HANDOVER
    - > QUIT ALL
-

**12.11.7 Turn Mated-Pair SYNC on**

To turn Mated-Pair sync on perform the following actions on the HLR<sub>UPGRADE</sub> and the HLR<sub>MATE</sub>:

**1 HLR<sub>UPGRADE</sub>** Enable SYNC on HLR<sub>UPGRADE</sub>.

```
> MAPCI ; MTC ; APPL ; HLR ; HLRSBY
> RTS SYNC
> QUIT ALL
```

---

**2 HLR<sub>MATE</sub>** Enable SYNC on HLR<sub>MATE</sub>.

```
> MAPCI ; MTC ; APPL ; HLR ; HLRSBY
> RTS SYNC
> QUIT ALL
```

---

**3 HLR<sub>UPGRADE</sub>** Enable HANDOVER on HLR<sub>UPGRADE</sub>.

```
> MAPCI ; MTC ; APPL ; HLR ; HLRSBY
> RTS HANDOVER
> QUIT ALL
```

---

**4 HLR<sub>MATE</sub>** Enable HANDOVER on HLR<sub>MATE</sub>.

```
> MAPCI ; MTC ; APPL ; HLR ; HLRSBY
> RTS HANDOVER
> QUIT ALL
```

---





---

# 13 Appendix C: Test Call Plan

---

## 13.1 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**

**Test calls listed in the following section will not apply to every office**  
The telephone office will have to customize the list according to its own particular configuration.

**CHECKLIST**

**Nortel recommends including the following items  
in your POSTSWACT testing routine.**

Add any other items that are determined to be important.

## 13.2 POSTSWACT call checklist

- \_\_\_ Verify date, time and DIALTONE
- \_\_\_ Perform Critical Call Tests (for example, 0- and 0+7/10)  
*See the following procedures.*
- \_\_\_ 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

### 13.2.1 Procedure 1 - Critical test calls for Wireline

| Test description                                                                                              | From: Line type<br>or CLLI | To: Call type<br>Digits dialed | Test<br>Result |
|---------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------|----------------|
| 1 Check for DIALTONE<br>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<br>(911, police, fire, hospitals, and radio stations)                       |                            |                                |                |
| 11 Verify TOLL COMP (DTS) route                                                                               |                            |                                |                |
| 12 Verify 1FR intra-office call                                                                               |                            |                                |                |
| 13 Verify Remotes:<br>- EAS outgoing (one route)<br>- '0' plus '0' minus<br>- CAMA ANI<br>- 1FR intra- Remote |                            |                                |                |
| 14 Verify Operator Intercept route                                                                            |                            |                                |                |
| 15 Verify all tones, group alarms,<br>and announcements functional                                            |                            |                                |                |
| 16 Verify all (idle) customer/network Trunks                                                                  |                            |                                |                |

**13.2.2 Procedure 2 - Critical test calls for Wireless**

| Test             | Call Type                   | Description                                                                                                    | Pass/<br>Fail | Comments |
|------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------|---------------|----------|
| Local Mobile     |                             |                                                                                                                |               |          |
| 1                | Mobile to Land Local        | Perform "Local" Mobile to Land Call, 7 digits if available 10 digits if mandatory 10 digit dialing is in place |               |          |
| 2                | Mobile to Land Toll         | Perform "Long Distance" Mobile to Land Call, 10 digits.                                                        |               |          |
| 3                | Mobile to Land DACC         | Perform directory assistance call. Verify call completion if available.                                        |               |          |
| 4                | Mobile to Land 911          | Perform 911 call                                                                                               |               |          |
| 5                | Mobile to Land 611          | Perform 611 call                                                                                               |               |          |
| 6                | Mobile to Land Voice Mail   | Perform voice mail retrieval call. Call own mobile. Verify call routes directly to voice mail.                 |               |          |
| 7                | Land to Mobile              | Perform Land to Mobile call. Verify Calling line ID is functioning properly.                                   |               |          |
| 8*               | Land to Mobile PGTO         | Perform Land to Mobile call. Do not answer. Verify mobile rings and routes to Page timeout recording.          |               |          |
| 9*               | Land to Mobile MBIA         | Power down mobile. Perform Land to Mobile call. Verify call routes directly to Mobile Inactive recording.      |               |          |
| 10               | Land to Mobile Voice Mail   | Power up mobile. Perform Land to Mobile call. Do not answer. Verify call rolls to voice mail.                  |               |          |
| 11               | Land to Mobile Call Waiting | Perform Land to Mobile call. Answer call. Perform second Land to mobile call-Flash to answer second call.      |               |          |
| <b>continued</b> |                             |                                                                                                                |               |          |

\*Additional Mobiles needed to perform these tests.

**Procedure 2**  
**Critical test calls for Wireless (continued)**

| Test                          | Call Type                          | Description                                                                                                                                                     | Pass/<br>Fail | Comments |
|-------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|
| <b>Local Mobile continued</b> |                                    |                                                                                                                                                                 |               |          |
| 11a                           | Mobile to<br>Mobile to<br>Land     | Perform 3-Way call.                                                                                                                                             |               |          |
| 11b                           | Mobile to<br>Mobile                | Perform Ported LNP call.                                                                                                                                        |               |          |
| 11c                           | Mobile to<br>Mobile                | Perform Non Ported LNP call.                                                                                                                                    |               |          |
| <b>Roaming Mobile</b>         |                                    |                                                                                                                                                                 |               |          |
| 12*                           | Mobile to<br>Land Local            | Perform "Local" Mobile to Land call,<br>7 digits if available 10 digits if<br>mandatory 10 digit dialing is in<br>place.                                        |               |          |
| 13*                           | Mobile to<br>Land Toll             | Perform "Long Distance" Mobile to<br>Land call, 10 digits.                                                                                                      |               |          |
| 14*                           | Land to<br>Mobile Call<br>Delivery | Perform Land to Mobile, Call<br>delivery to roaming mobile.                                                                                                     |               |          |
| <b>Prepaid Mobile</b>         |                                    |                                                                                                                                                                 |               |          |
| 15*                           | Mobile to<br>Land Local            | Perform "Local" Mobile to Land call,<br>7 digits if available 10 digits if<br>mandatory 10 digit dialing is in<br>place. Validate balance message is<br>played. |               |          |
| 16*                           | Mobile to<br>Land Toll             | Perform "Long Distance" Mobile to<br>Land call, 10 digits. Validate<br>balance message is played.                                                               |               |          |
| 17*                           | Land to<br>Mobile                  | Perform Land to Mobile call.                                                                                                                                    |               |          |
| <b>continued</b>              |                                    |                                                                                                                                                                 |               |          |

\*Additional Mobiles needed to perform these tests.

**Procedure 2**  
**Critical test calls for Wireless (continued)**

| <b>Test</b>                                   | <b>Call Type</b>                   | <b>Description</b>                                                                        | <b>Pass/<br/>Fail</b> | <b>Comments</b> |
|-----------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------|-----------------------|-----------------|
| <b>Handoff</b>                                |                                    |                                                                                           |                       |                 |
| <b>18</b>                                     | Mobile to Land Handover            | Perform Mobile to Land call. Validate Handovers to adjacent sector completes.             |                       |                 |
| <b>19</b>                                     | Mobile to Land Handoff             | Perform Mobile to Land Call. Validate Handoff to adjacent site completes.                 |                       |                 |
| <b>20</b>                                     | Land to Mobile Intersystem Handoff | Perform Mobile to Land Call. Validate Handoff to adjacent system completes with handback. |                       |                 |
| <b>SMS</b>                                    |                                    |                                                                                           |                       |                 |
| <b>21</b>                                     | Mobile Originate – SMS message     | Perform Mobile originated SMS message.                                                    |                       |                 |
| <b>CDPD (Nortel CDPD solution MSC's only)</b> |                                    |                                                                                           |                       |                 |
| <b>22</b>                                     | System Access                      | Validate system access to the internet.                                                   |                       |                 |
| <b>end</b>                                    |                                    |                                                                                           |                       |                 |

---

**13.2.3 Procedure 3 - Additional test calls sample**

- 1 Verify regular POTS calls:  
line (1FR) → line (1FR)  
(969-xxxx → 969-xxxx)  
line (PPHONE) → trunk → line (1FR)  
(969-xxxx → 9-1-514-970-xxxx)

---
- 2 Verify use of different PM types:  
line (LM) → line (RLM)  
(969-xxxx → 969-xxxx)  
line (LCM) → line (RLCM)  
(969-xxxx → 969-xxxx)

---
- 3 Verify use of different trunk types:  
line (1FR) → PTS trunk → line (1FR)  
(968-xxxx → 9-969-xxxx)  
line (1FR) → ISUP trunk (all variants supported by office)→  
line (KSET-Disp M5209T)  
(968-xxxx → 6-456-xxxx)

---
- 4 Verify ISDN calls:  
line (KSET-Disp M5317T) → trunk → line (KSET-Disp M5209T)  
(968-xxxx → 6-456-xxxx)  
line (PPHONE-Disp M5317T) → trunk → line (1FR-Disp Maestro)  
(968-xxxx → 9-969-xxxx)  
line (KSET-Disp M5317T) → trunk → line (PPHONE-Meridan Bus.)  
(968-xxxx → 9-1-819-456-xxxx)  
line (KSET-Disp M5317T) → line (KSET-PSET)  
(968-xxxx → 968-xxxx)  
line (BRAMFT set) → line (BRAFS set)  
(968-xxxx → 968-xxxx)  
line (1FR) → line (BRAKS set)  
(968-xxxx → 968-xxxx)

---

### 13.2.4 Procedure 4 - Wireless HLR Provisioning Test

**CAUTION**

**This procedure is optional and is only for HLRs. It should be used only to perform provisioning testing as opposed to real provisioning. When HNESUPD is set to ALLOWED all provisioning is accepted. If ABORTSWACT is required during the ONP all provisioning changes will be lost.**

- 1 In table GHLRPARM change parameter HNESUPD to ALLOWED:
    - > TABLE GHLRPARM; POS HNESUPD
    - > CHA
    - > ALLOWED
    - > YES *{for confirmation}*
    - > QUIT
- 

- 2 Perform Provisioning Testing.

***TROUBLESHOOTING: If MSP error code E1 (Update Currently Disallowed) is received:***

    - a. Check the contents of the HLR-PS MI **.dal.adc.cached\_ps\_updates**. If this MI is set to 'DISALLOWED' then the HLR-PS is out-of-sync with the DMS-HLR.
    - b. Busy (BSY) the HLR-PS and Return to Service (RTS).

**Note:** If using MSP version 3 or 4 the E1 error code will be converted to ED.
- 

- 3 In table GHLRPARM change parameter HNESUPD to DISALLOWED:
    - > TABLE GHLRPARM; POS HNESUPD
    - > CHA
    - > DISALLOWED
    - > YES *{for confirmation}*
    - > QUIT
-



# 14 Appendix D: CMMOCK Procedure

---

## 14.1 About this appendix

The CMMOCK process is applicable when upgrading *from* a Product CM Load (PCL) that is built on CSP06/Base07 and higher. The procedures in this appendix can be used if the current CM software load is at least CSP06/Base07 or higher ("CSP" is communications software platform).

This procedure supports software applications on both the DMS-Core Computing Module (CM) and the extended Architecture Core (XA-Core) computing engines for DMS 100 Family Switches, including SuperNode SE.

## 14.2 Introduction

### 14.2.1 General

CMMOCK is a term designated to mean a Customer Mock ONP (or Dry Run ONP) typically performed 5 to 10 days before the scheduled ONP. This process is used to verify the switch data integrity, and to ensure a successful transfer of this data to the new PCL software load. Any table data transfer (TABXFR) issues identified by the CMMOCK can be escalated to the appropriate translation group for resolution prior to the actual ONP (refer to TABXFR failures flowchart at end of this appendix). The CMMOCK process uses a subset of the AutoONP steps to perform a table data transfer and does not include the PRESWACT, SWACT, and POSTSWACT sections. The CMMOCK is designed to run the AutoONP up to the PRESWACT step, and then place the switch back in SYNC returning the office to its original state. It is not designed to proceed on after TABXFR and place the office on the new PCL software load.

The SWUPGRADE increment is used to perform the CMMOCK and maintains a list of steps to execute. A driver process executes the steps in sequence. It receives messages from the CI to continue execution (GO, CONTINUE or RESUME) or to execute a specific step (RUNSTEP). Whenever a step fails or requires user response, the process stops, the user responds to the problem and then types "GO" to continue until all steps have been executed. In order to allow the process to handle configuration data (such as the name of the trace device, image to loadmate from, etc.), a set of environment variables are maintained to store this data. Environment variables are defined in the first step (SETUP\_ENV\_VARS) and their values are required by the steps executed on the Active or Inactive side CM.

## 14.2.2 Special Features

### How to insert/delete/modify steps

To allow customization of the CMMOCK, the user can change the steps that are normally performed. Commands are available to insert, delete, or otherwise modify the CMMOCK steps.

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

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

**OVERRIDE** will override the execution of a step.

The **PAUSE** command is used to pause the process.

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

### Use of the BULLETINS and PBS Workaround files

The BULLETINS and PBS Workaround files are maintained by the Nortel Networks Global Software Delivery organization. The BULLETINS file is used to provide as much automation as possible when performing the application bulletins and workarounds. The PBS Workaround file provides the operating company with a reference copy of all bulletin and notice workarounds for the CMMOCK. The PBS Workaround file is based on the "from and to" software loads and has the following naming conventions:

PBS<from PCL><to PCL>A                    (for SuperNode CM/SLM)  
or  
PBS<from PCL><to PCL>XA                    (for SuperNode XA-Core)

Examples: PBSLEEC012LEC015A   or   PBSLEEC015LEC017XA

It is recommended that the BULLETINS file and all bulletin and notice workarounds identified in the PBS Workaround file be reviewed before starting the CMMOCK. When required, bulletin and notice workarounds should be followed and manually executed during the CMMOCK.

**CAUTION**

**The BULLETINS file is a critical file that must be located in SFDEV for execution during the CMMOCK procedure.** If this file is missing from SFDEV or if it is named incorrectly the CMMOCK will fail. For assistance with the BULLETINS file, contact the Global Software Delivery hotline for your market.

Step DOWNLOAD\_FILES, towards the beginning of the CMMOCK process, will remind the user to download the BULLETINS file. Step READ\_BULLETINS will read (that is, execute) the BULLETINS file during the CMMOCK procedure.

**Using the CANCEL command**

The CANCEL command may be used to cancel CMMOCK at any time. When used, this command resets all SWUPGRADE steps and returns the switch to its original state.

**Getting help on CMMOCK steps**

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

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

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

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

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

Nortel Network's Global Software Delivery group provides first line of support for the CMMOCK process. If technical problems occur during the execution of the CMMOCK steps, contact the Global Software Delivery Hotline for your market.

## 14.3 CMMOCK procedure

### 14.3.1 Procedure 1 - CMMOCK procedure steps

The CMMOCK process has been enhanced in CSP11/Base12 loads to avoid the potential to enter PRESWACT, or leave the DMS in an altered condition after performing the TABLE\_TRANSFER step.

Certain steps or commands are valid only on certain software loads. Such dependencies are noted by from-side CSP level. For example, the term “CSP09-12” means valid for CSP09 through CSP12; while “CSP11->” means valid for CSP11 and higher.

CMMOCK steps are performed by the user and on a device designated as the ACT\_terminal (Active side terminal) unless indicated otherwise in bold type at the start of a step. A designated Trace\_device (Inactive side terminal) will be used to display output messages by the CMMOCK process. In this procedure "ACT" or "INACT" refers to the Active side and Inactive side CM processor, respectively, on which to perform an action.

#### **IMPORTANT:**

- *The Operating Company must obtain either a **CMMOCK Test Tape** or the **PCL Final Load Tape** to perform the CMMOCK procedure. If the **CMMOCK Test Tape** is older than 30 days, contact your regional customer representative to obtain a new one.*
- *The **BULLETINS** and **PBS Workaround files** are critical files that must be downloaded to SFDEV for the CMMOCK. Print and review the **PBS Workaround file** before starting the CMMOCK.*
- *Ensure that SFDEV does not contain files **FEATDATA**, **APF** or **SITEINFO** before starting the CMMOCK. If these files exist, use the following command to erase/remove them from the SFDEV:*

*> ERASESF FEATDATA;ERASESF APF;ERASESF SITEINFO*

- 1 Contact the control center (if required) and the site on the voice phone and establish two site connections.

**Note:** The CMMOCK requires two login devices: “ACT\_terminal” (ACTIVE side) and “Trace\_device” (INACTIVE side). If site access is via modem connection verify one dial-up port is on IOC 0 (or IOM 0) and the other is on IOC 1 (or IOM 1). If telnet connections are used and if available, IP addresses to IOC/IOM ports should be used.

---

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

- 2 On the terminal device designated "ACT\_terminal" login and, if applicable, set LOGINCONTROL:
- a. <break>
 

?LOGIN {system response}  
 Enter username and password  
 > <username> <password>
  - or > <username>  
 > <password>
  - b. Obtain the IOC/IOM device and user information as follows:
 

> **bcsupdate;device**  
 > **quit**
  - c. The site is responsible for providing users and devices with properties sufficient to perform the CMMOCK. Following are recommended settings for each user/device.
    - *User Priority* is 4
    - *User Stack Size* is at least 10000
    - *User Privilege Class* is ALL
    - *ComClass* is ALL
    - *OpenForceout* is N. If not, note original status and enter:  
 > **logincontrol <device> openforceout false**
    - *MaxIdleTime* is Forever. If not, note original status and enter:  
 > **logincontrol <device> maxidletime forever**
  - d. At the second terminal device designated as the "Trace\_device" repeat substeps a, b and c (above).
  - e. At the Trace\_device make a note of the device name.
 

**Note:** When necessary, the Trace\_device will be used to login on the Inactive side load and make data changes. In order to login on the INACT side, you will need to know the Trace\_device name.
  - f. Since SWUPGRADE displays messages on the Trace\_device, it is necessary to sleep the Active prompt on the Trace\_device in order to more clearly observe the output messages. On the Trace\_device enter the following command:  
 > **sleep 240 mins**

---

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

- 3 Locate the no-data CM load file (either tape or disk volume).

**REMINDER:** The no-data CM load file is located on the CMMOCK Test Tape or the PCL Final Load Tape.

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

***For SuperNode CM/SLM:***

- a. If loadmating from SLM disk, list the files on the disk volume with the no-data CM load file.

**IMPORTANT:** *Ensure the no-data CM load file is on the Inactive side CM/SLM.*

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

Make note of the name of the no-data CM load file and volume for later use in environment variable LDMATE\_IMAGE.

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

```
> sbf <volume> <filename_cm> cm <entry#>
Where <volume> is the disk volume with the no-data CM load file.
<filename_cm> is the no-data CM load filename.
<entry#> is the next available entry in ITOC, or 9.
```

*Examples:*

```
> sbf S00DIMAGE LET00017_CM cm 9
> sbf S01DIMAGE SN000008_CM cm 9
```

- c. If loadmating from SLM tape, place the tape cartridge with the no-data CM load file into the Inactive side CM/SLM.

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

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

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

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

Use the following commands to identify any open files:

```
> diskut
> lv
> quit
```

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

To locate and rotate active billing files:

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

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

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

***For SuperNode XA-Core:***

- f. If loadmating from XA-Core disk, list the files on the disk volume with the no-data CM load file.

```
> diskut
> lv {lists all volumes on F02L and F17L}
> If F02L<volume> {or F17L<volume>}
Where <volume> is the volume with the no-data CM load file.
```

Make note of the name of the no-data 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 no-data CM load file into a tape drive device. Make note of the tape drive device (F02UTAPE or F17UTAPE) for use in environment variable LDMATE\_IMAGE.

---

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

- 4 Enter the SWUPGRADE increment.
- a. If the current Active load is CSP11 or higher, initialize the CMMOCK platform. Type the following on the ACT\_terminal:  
  
    **> swupgrade cmmock**  
  
    **or**
  - b. If the current Active load is CSP10 or lower, initialize the CM platform. Type the following on the ACT\_terminal:  
  
    **> swupgrade cm**
  - c. Press <return> twice to display the current office header message. Retain this header message for use in environment variable: INACT\_LOGMSG (below).
- 

- 5 Obtain a list of available Cl commands. Type *HELP* to list all of the commands. For any command listed type *HELP <command>* to get a description of the command.
- IMPORTANT:*** To terminate or abort the CMMOCK at any time use the CANCEL command.
- 

- 6 Start the CMMOCK.
- > start**
- Note:** The START command is used to start the driver process. When the process is paused use GO, RESUME or CONTINUE to re-start the driver.
- 

- 7 Set up environment variables
- Step SETUP\_ENV\_VARS prompts the user for values and sets the environment variables necessary to perform the SWUPGRADE. Enter the requested values on the ACT\_terminal.
- IMPORTANT:*** Certain variables are valid only for certain software loads. Such dependencies are noted by from-side CSP level. For example, the term "CSP09-12" means valid when upgrading from CSP09 through CSP12; while "CSP11->" means valid for from-side CSP11 and higher.
- This step causes the software upgrade process to pause until the user enters GO, RESUME or CONTINUE.

—continued—



## Procedure 1 CMMOCK procedure steps (continued)

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

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

If a variable has a default value assigned, the default is the recommended value unless indicated otherwise. To accept a default value press <return> without entering a value. To enter different values, type the value and press <return>. If an illegal command string is entered a Help screen will appear.

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

Variable: **TRACE\_DEVICE** [no default]

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

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

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

**Note:** Be certain the Trace\_device name is entered correctly. When entered you should see a message "This device is selected for TRACEing" appear on the Trace\_device display.

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

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

**Recommended setting is the device you are logged onto.**

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

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

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

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

Value: <printer name> or SINK

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

eg1: LP021 - Record from the trace device onto LP021.

eg2: SINK - Do NOT record.

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

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

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

**Recommended settings is the default: logs TRAP SWERR CM CMSM MS NET ENET (for CM/SLM) or logs TRAP SWERR XAC MS NET ENET (for XACORE).**

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

eg1: CM - Checks for cm logs and displays a message if cm logs are recorded.

eg2: TRAP SWERR – Checks for traps and swerrs on and displays a message if traps or swerrs are recorded.

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

Variable (CM/SLM): **INACT\_CM**

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

Value: <cm number> - 0 or 1

Variable: **INACT\_LOGMSG**

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

Manual check: When requested to enter the value for the office header message, type the header message exactly as it was noted above (step 4c) except update the new job order number, software level, and current date.

*Example:*

```
*** H12345 Office_Name SN000009 01SEP2005 ***
```

Value: <log msg> - a character string

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

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

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

Holds the device name and filename used by the LOAD\_MATE step (CM/SLM) or the SPLIT\_AND\_LOADMATE step (XA-Core).

**If loadmating from CM/SLM disk:**

**Note:** Locate the disk volume with the no-data CM load file and verify the boot pointer was set (refer to step 3 above).

**IMPORTANT:** Ensure the no-data 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 no-data CM load filename, and <method> is the method to loadmate. Options are either DIRECT or VIAMS (Direct is the preferred method).*

Example:

S01DUNIT1 SN000008\_CM DIRECT - Loads CM load file SN000008\_CM from device S01DUNIT1 using the DIRECT method.

**If loadmating from CM/SLM tape:**

Value: <device>

*Where <device> is TAPE.*

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

**If loadmating from XACORE disk:**

Locate the disk volume with the no-data CM load file (see step 3).

Value: <volume\_name> <filename\_cm>

*Where <volume\_name> is the XA-Core disk volume and <filename\_cm> is the no-data CM load filename.*

Example:

F02LIMAGE SN000009\_CM - Loads CM load file SN000009\_CM from disk volume F02LIMAGE.

**If loadmating from XACORE tape:**

Value: <device>

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

Example:

F17UTAPE - Loads the CM load file from tape drive F17UTAPE.

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

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

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

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

***Recommended settings is the default: device name = SFDEV.  
However, for the CMMOCK no patches will be applied.***

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

Variable: **TABXFR\_STOPIF** [default is stopif = 1]

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

***Recommended setting is the default: stopif = 1.***

Value: <stopif> or UNLIMITED

*Where <stopif> is an integer between 0 and 4,294,967,295.*

eg1: 1024 - TABXFR halts after 1024 table failures.

eg2: UNLIMITED - TABXFR never stops.

Variable: **TABXFR\_LIMIT** [default is limit = 25]

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

***Recommended setting is the default: limit = 25***

Value: <n> or UNLIMITED

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

eg1: 3380 - TABXFR halts after 3380 tuple failures.

eg2: UNLIMITED - Unlimited number of failures for one table is allowed.

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**Variable: **TABXFR\_INITIAL\_PRINT** [default is 30 SECS]

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

**Recommended settings is the default: 30 SECS.**

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

eg1: 5 MINS - The message is printed after the first 5 minutes.

eg2: 30 SECS - The message is printed after the first 30 seconds.

eg3: FOREVER - The message is never printed.

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

Variable: **TABXFR\_INTERVAL\_PRINT** [default is FOREVER]

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

**Recommended setting is: 30 SECS.**

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

eg1: 5 MINS - The message is printed every 5 minutes.

eg2: 30 SECS - The message is printed every 30 seconds.

eg3: FOREVER - The message is never printed.

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

Variable: **SPMS\_OPTION** [default is NONE]

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

**Recommended setting is the default: NONE.**

The options are:

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

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

NONE - Do not generate the SPMS report.

eg1: DATE 1996 10 15 - Display indices for 15/10/96 and averages.

eg2: DATE 93 2 1 - Display indices for 01/02/93 and averages.

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

eg3: DAYS 1 - Display previous day's indices and averages.

eg4: DAYS 0 - Display the averages for the current and previous months.

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

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

Determines if AUTODUMP is enabled on the upgraded load.

**Recommended setting for this variable is NO.**

The options are:

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

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

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

Variable: **DRTIME\_REPORT** [default is NO]

Determines if the DRTIME report should be printed. Step DRTIME\_REPORT will provide detailed statistics on the TABXFR process.

**Recommended setting for this variable is the default: NO.**

The options are:

YES - Print the report.

NO - Do not print the report.

Variable: **DUMP\_NEW\_LOAD** [default is YES]

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

**Recommended setting for this variable is NO.**

The options are:

YES - CMMOCK will dump the new image.

NO - CMMOCK will not dump the new image.

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

Variable (CSP09): **DIRP\_BILLING\_HAS\_BEEN\_POLLED** [default is YES]

Reminds the user that DIRP BILLING should have been polled by the billing center.

**Recommended setting for this variable is NO.**

The options are:

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

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

Variable (CSP10-CSP11): **AUTOMATED\_DIRP\_AND\_BILLING** [default is YES]

Asks the user if they want the automated DIRP and billing steps.

**Recommended setting for this variable is NO.**

The options are:

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

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

---

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

*Example:*

```
> set logs 'trap swerr'
> set trace_device map
```

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

Environment variables can be displayed at any time by typing :

```
(CSP06-08) > swupgrade;disp vars
(CSP09) > swupgrade;disp var all
(CSP10->) > swupgrade;disp var <variable_name>
```

---

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

- 9 After environment variables have been entered, continue the SWUPGRADE process. Type GO on the ACT\_terminal:

> **go**

***IMPORTANT NOTE:***

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 user input is required. To resume after a PAUSE, type GO on the ACT\_terminal.

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 SWUPGRADE process automatically executes the remaining steps. Manual intervention is needed only when requested by information displayed on the Trace\_device terminal.***

Step: SETUP\_DIRP\_AND\_BILLING (CSP07-08)

SETUP\_DIRP\_AND\_BILLING performs the preparation for the other three DIRP billing steps: PRESWACT\_DIRP\_AND\_BILLING, SEND\_DIRP\_INFO\_TO\_INACTIVE, and RECOVER\_DIRP\_AND\_BILLING.

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

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

—continued—



**Procedure 1**  
**CMMOCK procedure steps (continued)**

## Step: NOTIFY\_USERS

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

## Step: SET\_LOGIN\_BANNER (CSP08-&gt;)

SET\_LOGIN\_BANNER replaces the existing login banner file with SWUPGRADE login banner. This banner will be displayed upon successful login on any terminal.

## Step: DOWNLOAD\_FILES

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

## Step: READ\_BULLETINS

READ\_BULLETINS executes the BULLETINS file downloaded by step DOWNLOAD\_FILES. This causes the CI commands contained within the file to be executed. Step READ\_BULLETINS executes the following CI commands: SEND SINK;LISTSF ALL;SEND PREVIOUS;READ BULLETINS

**Note:** If no BULLETINS file exists in SFDEV an OVERRIDE is required to continue SWUPGRADE.

## Step: VERIFY\_DEVICES

VERIFY\_DEVICES verifies all devices used during the software upgrade process are setup correctly. Currently, the checks are if ENHANCED\_PASSWORD\_SECURITY is on, then LOGINCONTROL settings MAX\_IDLE\_TIME and OPEN\_CONDITION\_LOGOUT, should be set to FOREVER, and N respectively.

## Step: PRINT\_PARMs\_AND\_SAVE

PRINT\_PARMs\_AND\_SAVE prints the values of the office PARMs NODEREXCONTROL, LCDREX\_CONTROL, GUARANTEED\_TERMINAL\_CPU\_SHARE and DUMP\_RESTORE\_IN\_PROGRESS to the trace device and saves the values for use by step RESTORE\_PARMs.

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

Step: CHECK\_LOGS\_1

The "CHECK\_LOGS" steps will display a count of logs on the ACTIVE side, INACTIVE side, or both. The type of logs displayed is determined by the input to variable: **LOGS**.

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

**Note:** The Trace\_device terminal response for step CHECK\_LOGS\_1 "new logs on the ACTIVE CM since the start of the process" is only true for offices upgrading from CSP10 and higher loads. For offices upgrading from CSP09 and lower loads this response is not true. For those offices the log count displayed is actually for all of the logs in the Logutil buffer. Offices upgrading from CSP09 and lower will need to determine which logs have occurred since the start of the CMMOCK process, and only display the contents of those logs and traps.

---

**Additional information for displaying logs**

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

**ACT**

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

*Example:*

> display log CM 5 inact

*This shows the five most recent CM logs in the mate side log buffer.*

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

To display the content of logs on the Active side:

**ACT**

> **quit all**

> **logutil**

> **open <log name> [<log number>]**

*repeat for each Active-side log*

> **quit**

*{to leave logutil increment}*

*Example:*

> logutil

> open CM 119

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

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

```

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

```

To display the content of logs on the Inactive side:

To login to the mate side processor, on the ACT\_terminal, type:

```

ACT
> mateio
> matelog <Trace_device>

```

On the Trace\_device type the username and password:

```

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

```

*Usernames and passwords for the Inactive no-data CM load are:*

```

admin admin
operator operator

```

```

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

```

*Example:*

```

Mate> logutil
Mate> open MS 314

```

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

```

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

```

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

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

```
INACT
Mate> logout
```

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

To re-enter SWUPGRADE and continue, type:

```
ACT
> swupgrade;go
```

---

Step: STOP\_JOURNAL\_FILE

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

Step: PRINT\_MS\_LOADS

This step prints the load names of each MS.

Step: ALIGN\_CM\_AND\_SLM (CM/SLM)

ALIGN\_CM\_AND\_SLM checks that the CM specified in environment variable INACT\_CM is in fact Inactive. If not, the user is prompted to SWACT the CM or change the value of the variable.

Step: DISABLE\_PRSM\_AUDIT\_ACT (CSP10->)

This step disables the PRSM audit for the CMMOCK.

Step: CMIC\_LINKHITS\_CHECK (CSP08 ->) (CM/SLM)

CMIC\_LINKHITS\_CHECK checks the integrity of the CMIC links on the Active side.

---

**10** ***IMPORTANT:*** The following step will pause before dropping sync on the CM/SLM. When ready to drop sync, the user must JAM the Inactive CM (Inactive-side RTIF) before the step can continue.

Step: DROP\_SYNC (CM/SLM)

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

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

## Step: LOAD\_MATE (CM/SLM)

LOAD\_MATE loads the Inactive CM with the new software image from either tape or disk. This step reads LDMATE\_IMAGE variable to determine the device from which the new software image is to be loaded.

***IMPORTANT:*** The following step will pause before splitting the XA-Core shared memory into an ACTIVE and INACTIVE unit. When ready to enter Split mode, the user must enter GO on the ACT\_terminal to continue.

## Step: SPLIT\_AND\_LOADMATE (XACORE)

SPLIT\_AND\_LOADMATE will instruct the user to obtain permission to split the XA-Core shared memory, then pause to wait for the user to enter GO to continue. When the user enters GO, the process performs the split and loads the INACTIVE unit with the new XA-Core no-data load file from either tape or disk. This step reads LDMATE\_IMAGE variable to determine the device from which the new software image is to be loaded.

## Step: MATELINK\_RTS

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

## Step: UPDATE\_STEPS\_AND\_VARS

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

## Step: CHECK\_NEW\_LOAD

CHECK\_NEW\_LOAD attempts to verify that the load on the Inactive CM is a fresh, non-datafilled load. This is done by checking that table TERMDEV only has a single tuple.

## Step: SET\_DATE\_AND\_LOGMSG

SET\_DATE\_AND\_LOGMSG transfers the Active side date and time to the Inactive and sets the log message to the value of variable INACT\_LOGMSG.

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

Step: CHECK\_LOGS\_2

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

***IMPORTANT:*** Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands (see "Additional information for displaying logs" in step CHECK\_LOGS\_1).

Step: CLEAR\_TRAPINFO

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

Step: TRANSFER\_DEVICES\_INFO

TRANSFER\_DEVICES\_INFO copies the information saved in VERIFY\_DEVICES from the Active cpu to the Inactive cpu.

Step: TRANSFER\_PARM\_VALUES

TRANSFER\_PARM\_VALUES copies the parameters saved in step PRINT\_PARAMS\_AND\_SAVE from the Active to the Inactive CM.

Step: RESET\_BCSUPDATE\_STEPS (CSP06-08)

RESET\_BCSUPDATE\_STEPS resets certain BCSUPDATE steps to needed.

Step: MS\_CHECK

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

***Note: This step may fail during the CMMOCK. Type OVERRIDE MS\_CHECK to continue.***

Step: DISABLE\_AUTOIMAGE

DISABLE\_AUTOIMAGE disables the auto image dump process which could potentially interfere with the ONP process.

Step: SET\_OFFICE\_TUPLES

SET\_OFFICE\_TUPLES retains the current state of office parameters NODEREXCONTROL, LCDREX\_CONTROL and GUARANTEED\_TERMINAL\_CPU\_SHARE and then sets both NODEREXCONTROL and LCDREX\_CONTROL to OFF and GUARANTEED\_TERMINAL\_CPU\_SHARE to its maximum value.

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

Step: SET\_PADNDEV

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

**ATTENTION**

**The CMMOCK process does not require CM patches.**  
If no patch files are present then none will be sent or applied to the Inactive side during steps SEND\_PATCHES or APPLY\_PATCHES.

Step: SEND\_PATCHES

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

Step: APPLY\_PATCHES

APPLY\_PATCHES messages the Inactive side to start the PRSM process which applies the patches that were sent to the Inactive side by the SEND\_PATCHES step.

Step: CHECK\_LOGS\_3

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

***IMPORTANT:*** Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands (see "Additional information for displaying logs" in step CHECK\_LOGS\_1).

Step: RESTORE\_PADNDEV

RESTORE\_PADNDEV restores table PADNDEV to contain the exact tuples it had before step SET\_PADNDEV was executed.

Step: TABLE\_TRANSFER

TABLE\_TRANSFER executes the TABXFR process to transfer all data from the old to the new software load.

***If TABXFR errors are encountered perform step 11; otherwise, skip the following step and continue with step TABXFR\_REPORT.***

---

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

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

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

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

- a. Whenever it is necessary to access the INACT (mate) side to correct table failures: for CM/SLM verify a flashing A1, for XA-Core verify the inactive processor has initialized by attempting login.
- b. Access to the INACT side is done via the Trace\_device terminal. Before logging into the INACT side and if not already done, on the Trace\_device sleep the Active side prompt by entering the following:

> **sleep 240 mins**

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

*Examples:*

> Active side processor (from-side software load)

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

- c. Login to the INACT side processor. On the ACT\_terminal type:

> **mateio**

> **matelog <Trace\_device>**

On the Trace\_device type the username and password:

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

Mate> **admin admin**

**Note:** Usernames and passwords for the Inactive no-data CM load are:

admin admin

or

operator operator

—continued—



**Procedure 1**  
**CMMOCK procedure steps (continued)**

- d. On the ACT\_terminal investigate and determine if the failed table data is valid for the from-side software load. On the Trace\_device investigate and determine if the failed table data is valid for the to-side software load. After correcting table failures, logout of the INACT side processor:

Mate> **logout**

***IMPORTANT:*** Do not logout of the Active side processor on either the ACT\_terminal or Trace\_device (on the Trace\_device the Active side prompt should still be sleeping).

- e. Continue the SWUPGRADE process until step TABLE\_TABXFR is complete. On the ACT\_terminal type GO to continue:

> **swupgrade;go**

***IMPORTANT:*** Repeat step 11 for every table failure encountered during TABXFR. If necessary contact your translations department. Also refer to the "TABXFR failure flowchart" at the end of this appendix.

Step: TABXFR\_REPORT (CSP09->)

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

Step: CHECK\_LOGS\_4

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

***IMPORTANT:*** Display the contents of all logs listed. If traps exist, also display full trap information using Logutil commands (see "Additional information for displaying logs" in step CHECK\_LOGS\_1).

---

**12** Complete the CMMOCK process.

Perform this step when all TABXFR errors have been resolved and step TABLE\_TRANSFER is completed.

**CAUTION**

**Do not allow step START\_PRESWACT to run.**

The CMMOCK process must be completed depending on what level the Active side software is and/or the SWUPGRADE platform used (CMMOCK or CM).

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

- a. Determine the SWUPGRADE platform used to perform the CMMOCK:

> **swupgrade;status**

- b. If the SWUPGRADE CMMOCK platform was used, type GO on the ACT\_terminal to continue:

> **swupgrade;go**

**or**

- c. If the SWUPGRADE CM platform was used, type CANCEL on the ACT\_terminal to continue:

> **swupgrade;cancel**

*Two confirmations will be required to continue.*

***ATTENTION: Watch the output messages on the TRACE DEVICE!***

The "Trace Device" will output messages informing the operator what steps are being rolled back. Upon getting the messages:

*The SWUPGRADE process has paused. Enter GO or  
Type GO to resume CANCEL*

The operator must type "GO" and press return on the ACT terminal until getting the message:

*SWUPGRADE CANCEL is completed.  
You may now QUIT out of the SWUPGRADE increment.*

***ATTENTION: Manual intervention is required.***

When the below step is generated on the Trace Device the operator must release the JAM on the INACT RTIF before executing the step. This step will be executed once the operator enters "GO" on the ACT terminal.

*Executing the step SYNC\_SWITCH.  
SWUPGRADE has now reached the SYNC\_SWITCH step  
Are you ready to SYNC the SWITCH?  
Execution is not complete.*

---

—continued—

**Procedure 1**  
**CMMOCK procedure steps (continued)**

*The remaining steps are automatically executed by the SWUPGRADE process. Manual intervention is needed only when requested by display messages on the Trace\_device terminal.*

Step: DRTIME\_PRINT  
Step: UNSPLIT\_SWITCH (XA-Core)  
Step: ENABLE\_AUTOIMAGE  
Step: SYNC\_SWITCH (CM/SLM)  
Step: RESTORE\_PARMS  
Step: RESET\_DEVICES  
Step: RESET\_LOGIN\_BANNER  
Step: RESUME\_REX\_TEST  
Step: START\_JOURNAL\_FILE  
Step: PRINT\_SWUPGRADE\_REPORT  
Step: STOP\_RECORD  
Step: RESET\_BCSUPDATE\_STATUS (CSP20->)  
Step: UPGRADE\_COMPLETE

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

Continue by typing GO on the ACT\_terminal:

> **swupgrade;go**

---

**13** Quit the SWUPGRADE increment.

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

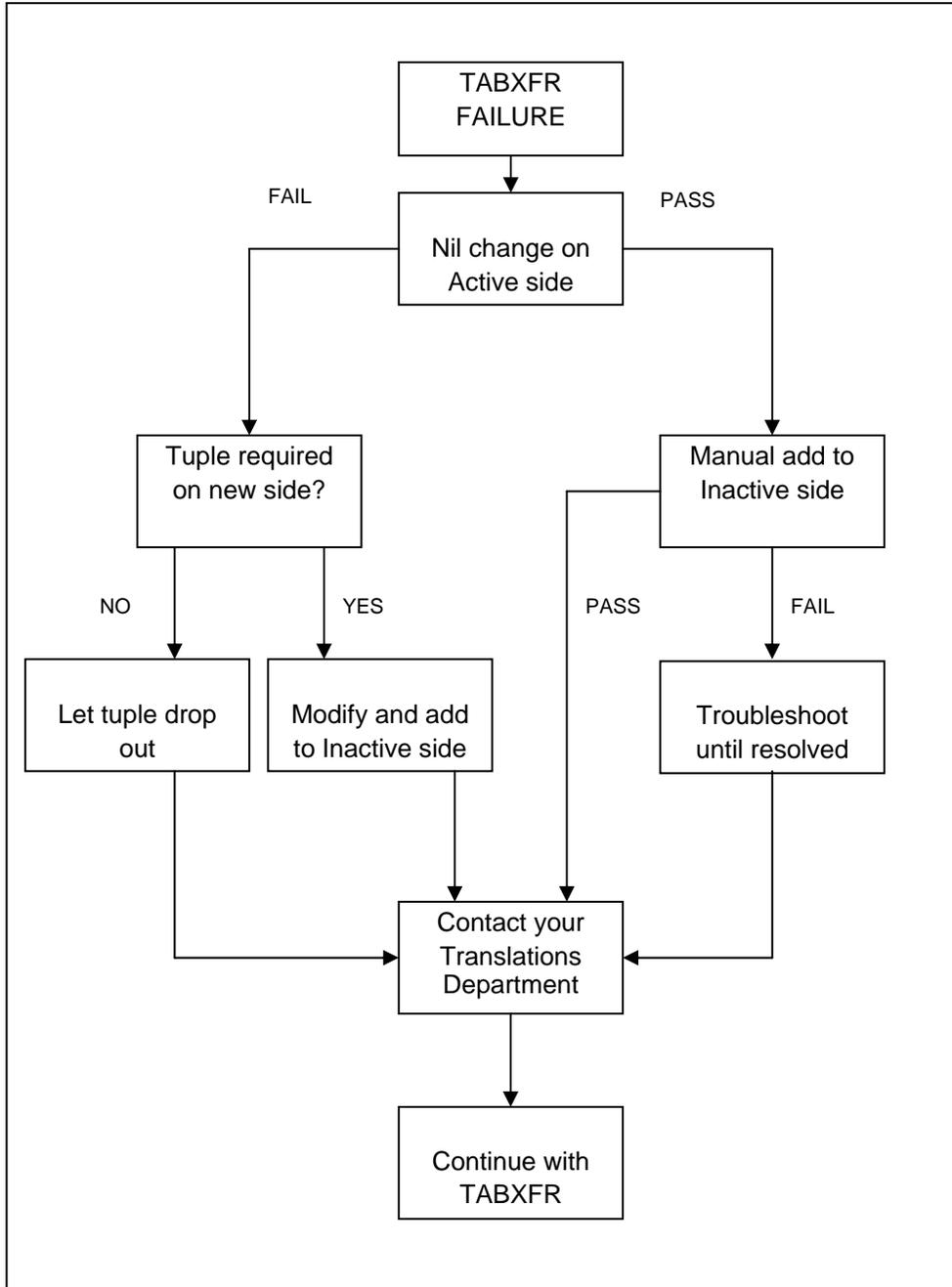
*...Process complete. You may now QUIT out of the SWUPGRADE increment. Finished step UPGRADE\_COMPLETE.*

> **quit**

---

**This completes the CMMOCK procedure.**

### TABXFR failures flowchart for CMMOCK





DMS-100 Family  
**Global Software Delivery**  
One Night Process Procedures Guide

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