DMS–100 Family

Global Software Delivery

One Night Process Procedures Guide

Base07 and higher   Standard 19.05   October 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

Publication history

Oct 10, 2006

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Standard Release 19.05 for ONP upgrades from CSP06/Base07 PCLs and
above to CSP06/Base07 and above, up to and including CSP22/Base23.
- Removed procedure "Table ACDGRP" from Site preparation section.

Jul 20, 2006

297-8991-303 *Global S/W Delivery - One Night Process Procedures Guide*
Standard Release 19.04 for ONP upgrades from CSP06/Base07 PCLs and
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- Revised ESD section.
- Added information to Site Preparation Overview section
- Minor revisions and corrections to various sections.

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_UNSPLIT_OFF , TABXFR, PRESWACT and SCANF.

June 1, 1999

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

May 31, 1999

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

May 6, 1999

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

- Added information on step DISPLAY_NOC_USERS in the BCSUPGRADE summary section of Appendix A.
- Updated section Procedure for loading the BMMI Data Dictionary of Appendix B to show the different filenames for CSP10 and higher.
- Removed information on Nortel on-line help in the Introduction section of Appendix D.
- Added information on using the CANCEL command in the Introduction section of Appendix D.
- Clarified the use of the CANCEL command in the AutoONP procedure (steps 7 and 16) in Appendix D.
- Corrected setting definition of variable TABXFR_LIMIT in the AutoONP, AutoONP Mock and CMMOCK procedures (Appendices D and E).
- In AutoONP and Mock AutoONP, corrected command syntax for displaying logs using LOGUTIL
- Added information on which loads automatically log the user after SWACT in the AutoONP procedure.
- Revised Important note for procedure 8, step 4 of the SWACT and POSTSWACT procedure (chapter 3), and for procedure 1, step 17 of the AutoONP procedure (Appendix D).
- Added Cancel TABXFR steps to procedure 1 of the Revert AutoONP procedure in Appendix D.
- Added CMMOCK section to Appendix E.
- Expanded table listing in Procedure 1 of Appendix F.

March 31, 1999

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

March 11, 1999

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

February 25, 1999

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

November 3, 1998

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

September 22, 1998

297-8991-303 *One Night Process Software Delivery Procedures* **Preliminary** Release 07.03 for ONP to Base03 PCLs and up, including CSP10/Base11 (for example, NA010).

- The AutoONP MOP for coming from Base07 (such as NA006) and higher is included as Appendix D. Do *not* separate the AutoONP MOP from the ONP MOP because of reference to ONP DIRP/billing section.
- Under section "Site preparation procedure" in procedure "Processor tests SuperNode", removed the step to JAM the CM while performing front-end testing. Due to CM hardware and software evolution this action is no longer a requirement.

August 18, 1998

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

August 10, 1998

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

February 12, 1998

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

December 12, 1997

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

October 20, 1997

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

September 29, 1997

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

August 22, 1997

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

June 27, 1997

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

May 15, 1997

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

March 6, 1997

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

November 15, 1996

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

August 30, 1996

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

April 12, 1996

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

February 21, 1996

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

January 22, 1996

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

August 21, 1995

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

May 8, 1995

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

Contents

About this document

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.

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                          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 customer representative to obtain
proper documentation.
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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

— IM 78-6175 XA-Core Upgrade to Release 2 Configuration

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 delivery application requires certain activities to be completed before the ONP. Some of these activities will depend on factors such as office type and new PCL software being delivered. This section provides a brief overview of some site preparation activities and important warnings. Required activities not listed in this section may need to be approved by and coordinated through appropriate Nortel customer representatives. The following information should be reviewed by office personnel as soon as this document is received.

2.1.1 Administrative

- 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 scheduled ONP date.

- 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 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.

- For TOPS offices with Operator Positions the operating company must determine the compatible software load and complete any required upgrades prior to the ONP. Please contact the Operator Positions vendor to ensure compatibility of software with the new PCL software load.

- Schedule ONP activity during the operating company's maintenance window. The switch of activity (SWACT) to the new PCL software load should occur during low traffic periods. Specific operating company policies should be used to establish the estimated time of SWACT.

- Provide advance notification of the software delivery application to operating company control centers, operator services, and other organizations that could be affected by ONP activity.

- 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 prior to 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 TDM offices equipped with CBM, upgrade the CBM before the ONP. For CDMA Networks refer to CBM Upgrades for CDMA Circuit Networks (NN20000-327) or for TDM Wireline refer to Upgrading the Core and Billing Manager 850: Application Installation and Upgrade Guide (NN10347-461) for details.

- 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

- 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 <u>no errors on all tables</u> (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.

- TDM offices scheduled for upgrades cannot have VoIP partially datafilled. When converting a TDM office to a Succession Call Server the Succession components should be added after the TDM ONP.

- 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

- SDM / CBM cannot be operating on BOTH mode during the ONP. BOTH mode should only be used as a temporary stage while transitioning from DIRP to SBA on the SDM or while transitioning from the SDM to the new CBM (Core Billing Manager).

- FTP users do not survive SWACT and must be re-added after the ONP. The operating company should determine and retain FTP user information prior to the ONP.

2.2 Pre-application activities

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

- First shipment of software media to the site
- Site polling by Nortel to obtain specific switch information
- Site preparation procedures and PM update process
- TABAUDIT procedure
- Final shipment of software media 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 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). If for any reason a software application is cancelled or requires rescheduling, contact your Nortel 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.
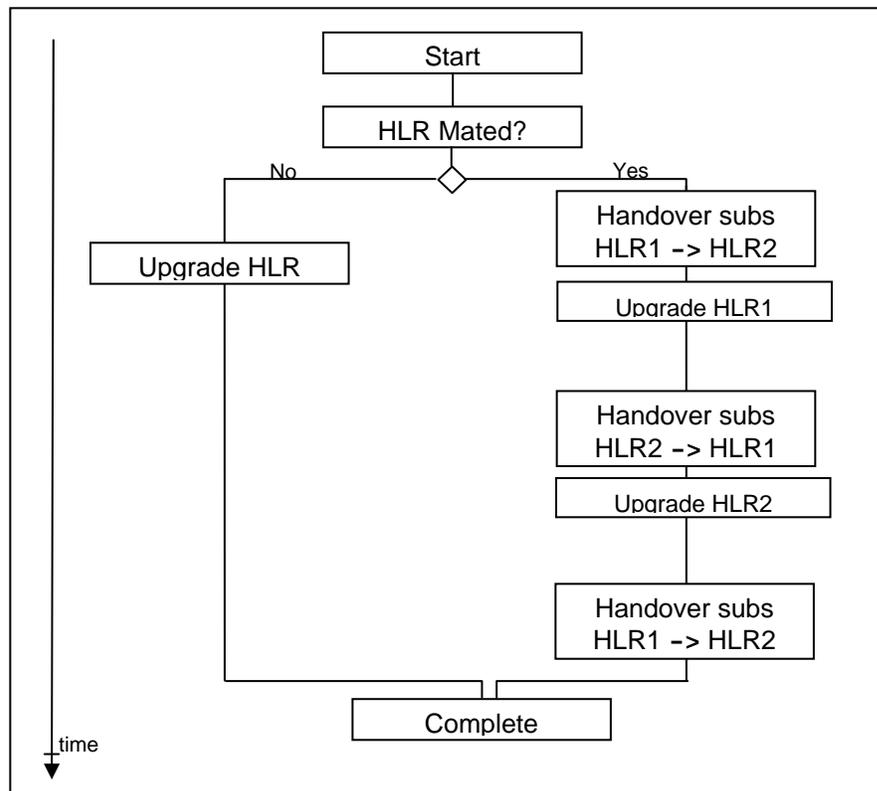
Figure 1 Possible Upgrade Scenario

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 <u>first shipment</u> of software media arrives on site (shipped approximately 35 days before the ONP).

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: <u>Site preparation procedure</u>, <u>TABAUDIT procedure</u>, and <u>Pre-loading the Message Switch</u>. If any of these procedures are not completed by the final office review, the software 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.

Note: The following steps do not apply to the TAS NONRES tape that is used only by Nortel 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 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 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:	*For XA-Core:*
CM — Computing Module	XAC — XA-Core
MS — Message Switch	MS — Message Switch
MM — Mismatches	MM — Mismatches
SLM — System Load Module	SYSLOG — System Logs
	ISYSLOG — Inactive System Logs

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

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

```
> LOGUTIL
> LISTREPS SPECIAL
```

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

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

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

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

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

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

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

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

3   **ACT** Starting the printer device

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

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

3.2.5 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 <u>Inactive</u> 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 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 - 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.

3.2.9 Procedure 9 – SWUPGRADE READY Procedure

Perform this procedure at the end of the site preparation phase and before any office pre-application checks. The READY steps are used to determine site readiness prior to the ONP.

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

1   **Site/ACT** Set-up and execute SWUPGRADE READY.

   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

   *WARNING***:** During environment initialization any CANCEL command should be executed on the same terminal from which the START command was issued. Otherwise a trap will be generated.

   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 9
SWUPGRADE READY Procedure (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: 17 - for LEC00017, LET00017, LLT00017
 eg2: 19 - for SN000006, SE000006, SD000006
 eg3: 22 - for SN000009

NOTE: The CSP value for a CM load can be determined by
using CI command IMAGENAME. The CSP value is equal to the
TL layer. If necessary contact Nortel for the CSP value of the to
CM load.

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: PMCHECK17 - validates PM loads for CSP17
eg2: PMCHECK19 - validates PM loads for CSP19
eg3: PMCHECK22 - validates PM loads for CSP22

—continued—

Procedure 9
SWUPGRADE READY Procedure (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 9
SWUPGRADE READY Procedure (continued)

    d.   When all environment variables have been input, enter GO to 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 9
SWUPGRADE READY Procedure (continued)

ATTENTION: Perform step 2 only if the current PCL is CSP07 or 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}
```

3.2.10 Procedure 10 - 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 <u>no errors</u> on <u>all tables</u> 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 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
```

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

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

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

—continued—

Procedure 2
Using AUTOTABAUDIT to run TABAUDIT (continued)

Example timeframe for AUTOTABAUDIT

```
                              Start     Start     Stop      Stop
                              time      date      time      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 <u>halts</u> AUTOTABAUDIT and <u>resets</u> 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 <u>no errors on all tables</u> 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 after receiving the final shipment of software media.

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.

For physical media shipments Nortel 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. For ESD (Electronic Software Delivery) shipments the CM and MS software load files are delivered to a drop box server.

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:

- For CM/SLM offices (not XACORE) the volume selected must be an SLM image volume. The no-data CM load file will be registered in ITOC at the start of the AutoONP procedure.

- The volume selected 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 a volume on 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>
```

Note: Listing files from tape 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 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 <u>both</u> the CM and MS load files onto the SLM disk, where
  <disk_volume> is the SLM volume name
  <tape_device> is the SLM tape unit
  <filename_CM> is the CM load file name
  <filename_MS> is the MS load file name

For SLM disk on CSP06 and lower

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

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

For XA-Core disk

Use the SCANF command to restore the load files.

> `SCANF <`**`tape_device`**`> COPY <`**`volume_name`**`>`
Restores all files onto the disk, where <tape_device> is the name of
the tape device (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 software media.

—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 software upgrade activity.

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 and/or the operating company established a 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 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 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** "<clli>_SCF" or "<clli>$SCF" in SFDEV (or download device). If a SOC file is present, copy the file to a disk drive (or tape). 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. ***CAUTION:*** Do not erase any PRSU files or process files that were delivered specifically for the ONP.

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.

11	FTP users do not survive SWACT and must be re-added after the ONP. Use the FTP command SHOWSVUSERS to determine and retain user related information. After the ONP use the FTP command ADDUSERINFO to re-add user related information.

12	Determine if this office is equipped with SPM peripheral modules (see table MNNODE). If equipped, the SPM modules will need to be registered for REX after the ONP using the SPMREXRG registration tool. For more information regarding the registration process refer to the DMS-Spectrum Peripheral Module Commands Reference Manual.

6.1.2 Procedure 2 - Run DATADUMP (optional)

Nortel recommends running an office DATADUMP prior to the ONP in
order to collect a hard copy of the office image dump. 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 capture 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 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 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}*
> **lf S00D<volume>**   *{or S01D<volume>}*
Where <volume> is the SLM disk volume with the CM load file.

Make note of the name of the 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}*
> **lf 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 <u>office header message</u>. Make note of the header message for use in environment variable: INACT_LOGMSG.

---

8   Obtain a list of available <u>CI commands</u>. Type *HELP* to list all commands. Type *HELP <command>* to get a description for each command.

IMPORTANT: Correct usage of 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, <u>do not</u> 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 <u>environment variables</u>.

WARNING: During environment initialization any CANCEL command should be executed from the same terminal from which the START command was issued. Otherwise a trap will be generated.

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. The CSP level is equivalent to the TL layer identified by CI command: IMAGENAME.

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 <u>Help screen</u> 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 20JUL2006 ***
```

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 SN000009_CM DIRECT - Loads CM load file
SN000009_CM from device S01DIMAGE using 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->)*

> 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_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
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_PARMS_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.

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 PADNDEVS environment variable.

Step: SEND_PATCHES

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

Step: APPLY_PATCHES

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

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 <u>change the state of the device(s) identified </u>to either IN-SERVICE (OK) or OFFLINE.

The <u>operating company</u> is responsible for changing Active side device states. The <u>Applicator</u> is responsible for Inactive side device states. If Active side devices were changed (for example, OFFLINE), it will also be the operating company's responsibility to restore these devices after the ONP 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 <u>hardware conversion</u> (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 <u>may require manual action</u>.

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-> 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.

<p align="center">**—continued—**</p>

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 <u>release the jam on the Inactive CM</u> before the step can continue (release jam is not necessary on XACORE offices). FINAL_SWACT_CONFIRMATION requests a <u>final agreement</u> 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: Correct usage of 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, <u>do not</u> 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 <u>manual action</u>. When prompted to recover DIRP and billing, complete the appropriate "Recover DIRP and billing" procedure(s) in Appendix B before continuing with the SWUPGRADE process.

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

> 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_POSTWACT.

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_POSTWACT 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. <u>Do not</u> 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 POSTWACT steps will be displayed with a status of "complete."

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

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 datafilled 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   <u>**HLR Mated-Pair Upgrade only:**</u> 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 image 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 3.2.10).

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). <u>Do not</u> 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—

Procedure 1
Revert procedure steps   (continued)

```
Executing the step DUMP_NEW_LOAD
No Automatic Image Dump was requested. If needed,
please dump the image manually as soon as possible
The step DUMP_NEW_LOAD is completed.

Executing the step START_JOURNAL_FILE.
The step START_JOURNAL_FILE is completed.

Executing the step RESET_DEVICES
The step RESET_DEVICES is completed.

If any abort actions are required for step READ_BULLETINS
please perform them now.
Type GO to resume CANCEL.

Executing the ABORT_PRESWACT.
REACTIVATE_DCT                       executing
REACTIVATE_DCT                       complete
        .
        .
RESET_SIS_ROUTING_DATA               executing
RESET_SIS_ROUTING_DATA               complete
CLEANUP_VR_MATE_DATA                 executing
CLEANUP_VR_MATE_DATA                 complete
ABORT_PRESWACT has completed.
Execution completed.

Executing the step STOP_RECORD
The step STOP_RECORD is completed.

The rollback of SWUPGRADE steps is completed.

SWUPGRADE CANCEL is completed.
You may now QUIT out of the SWUPGRADE increment.
```

End of example

End of Revert to CSP07 and higher procedure

8.3 Abort procedure prior to SWACT

This section details the steps required to terminate (abort) the software upgrade process before SWACT has occurred. The Abort procedure is applicable to all software loads on CSP06 and higher for both SuperNode CM/SLM and SuperNode 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.
> SWUPRADE 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.
> SWUPRADE has now reached the UNSPLIT_SWITCH step
> Are you ready to UNSPLIT the SWITCH?

Example session of CANCEL before SWACT step is executed:

```
WARNING: The rollback of software upgrade steps is
         about to start.

Resetting the default tabxfr platform.

Tabxfr platform has been reset to STANDARD.
Executing the rollback for step PRESWACT_DIRP_AND_BILLING.

Please follow the step Recover billing from the ONP MOP
procedure Revert to old load to perform the rollback
of the step PRESWACT_DIRP_AND_BILLING.
Execution completed.
The SWUPGRADE process has paused. Enter GO.
```

—continued—

Procedure 1
Abort procedure steps   (continued)

```
Executing the step RESTORE_PARMS
The step RESTORE_PARMS is completed.

Executing the BCSUPDATE step ENABLE_AUTOIMAGE.
ENABLE_AUTOIMAGE complete

If any abort actions are required for step EXAMPLE_CI_STEP
please perform them now.
Type GO to resume CANCEL.

Executing the step UNSPLIT_SWITCH.
SWUPGRADE has now reached the UNSPLIT_SWITCH step.

Are you ready to UNSPLIT the switch?
Execution is not complete.
The SWUPGRADE process has paused. Enter GO.

Executing the step UNSPLIT_SWITCH.
The step UNSPLIT_SWITCH is completed.
The journal file was not originally on.
It will not be restarted automatically.

Executing the step RESET_DEVICES
The step RESET_DEVICES is completed.
If any abort actions are required for step READ_BULLETINS
please perform them now.
Type GO to resume CANCEL.

Executing the ABORT_PRESWACT.
REACTIVATE_DCT                      executing
REACTIVATE_DCT                      complete
REACTIVATE_TRIGASGN                 executing
REACTIVATE_TRIGASGN                 complete
NBD_ABORT_PRESWACT                  executing
NBD_ABORT_PRESWACT                  complete
ENABLE_PES_AUDIT                    executing
ENABLE_PES_AUDIT                    complete
RESET_OFFICE_TUPLES                 executing
WARNING: Guaranteed_Terminal_CPU_Share already restored.
```

—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 <u>Emergency Services</u> are functioning.

Then, perform the TEST CALLS that were identified ahead-of-time.
Refer to the *Test Call Scripts*.

2 **Site and App/INACT** If asked to do so by technical support and only with approval, dump an image of the Inactive (mate) side.

Only after this mate image is completed should the processors be put back in sync (next procedure).

8.4.12 Procedure 12 – Complete Testing and SYNC SuperNode

<u>IMPORTANT!</u>—for CM card changes:

If aborting a ONP/CM Card Replacement—Once the operating company and Nortel Networks agree all tests have passed satisfactorily, the Applicator must <u>wait</u> to allow the on-site **Installer** to complete the following step:

- re-install the original hardware on the Inactive side CM shelf

- SYNC the switch when done

- return switch to the **Applicator** (who will complete POSTSWACT, *steps 1.b and 1.c below*)

1   **App/ACT** POSTSWACT will STOP at step BEGIN_TESTING to allow the site to complete testing. When testing is complete, SYNC the CM processors as follows.

Note: Do not enter POSTSWACT again until the processors are in SYNC.

a.   `> MAPCI;MTC;CM;SYNC`
   `> YES`   *{for confirmation}*
   `> QUIT MAPCI`

b.   `> REXTEST SUSPEND ALL`

   If in PRSM on CSP06
   `> AUTOPROC ALL STOP;AUTOPROC ALL DELAY`

   These commands allow final activities to occur without interruption, including dumping an image of the new PCL.

c.   `> POSTSWACT`   *{still in BCSUPDATE}*

   At this point BCSUPDATE will run the remaining POSTSWACT steps and set them to "complete" when they pass. If any step fails, follow given instructions to correct the problem, then continue by typing: POSTSWACT.

8.4.13 Procedure 13 - Finish POSTSWACT Revert

1   **App/ACT** Clean up SFDEV by erasing any application-related files (for example: FEATDATA, SITEINFO, and DIRP_INAC).

2   **Site/ACT** For security the operating company should verify passwords for users ADMIN and OPERATOR.

3   **Site/ACT** Reassign all current PROFILE information (LOGIN or RESTART) in SFDEV.

4   **Site/ACT** Reassign any temporary log ROUTING setup via LOGUTIL.

5   **App/ACT** If table PADNDEV was manually changed for mate-side patching, restore the original data in this table to point to the correct patch download device(s).

6   **Site/ACT** Reassign any changes in the INTEG level of the MAP (for example, UPTH, BUFFSEL, FILTER and others).

7   **Site/ACT** Return PORTS and USER information back to original values.

8   **Site/ACT** Notify DNC end users to LOGIN the DNC.

9   **Site/ACT** If Network Management code blocking was removed earlier, have Network Maintenance personnel restore code blocking active.

8.4.14 Procedure 14 - Start journal file

1   **Site/ACT** If equipped, start journal file and verify started.

    a.   `> JF START`

    b.   `> MAPCI;MTC;IOD;DIRP`

    c.   `> QUERY JF ALL`
    QUERY JF should respond with "AVAIL." If a standby device is being used, both Active and standby volumes should be marked "AVAIL."

    d.   `> QUIT ALL`

8.4.15 Procedure 15 - Reset AutoONP steps

1   **App/ACT** Cancel the SWUPGRADE process and reset the AutoONP steps on the current load to their original configuration.

> `> SWUPGRADE;CANCEL`

Two confirmations will be required to continue.

> `> YES`

> `> YES`

---

2   *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**. <u>Do not</u> perform the following procedure if a controlled Revert is required after the switch of activity (SWACT) to the new load. If a controlled Revert is required, perform either the "Revert back to CSP07 and higher loads" or the "Revert back to CSP06 load" procedure (see section 8.1).

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 <u>Emergency Services</u> are functioning.

Then, perform the TEST CALLS that were identified ahead of time.
Refer to the *Test Call Scripts*.

---

2   **Site and App/INACT** If asked to do so by technical support and only with approval, dump an image of the *Inactive* (mate) side.

Only after this mate image is completed should the processors be put back in sync (next procedure).

8.5.8 Procedure 8 – Complete Testing and SYNC SuperNode

<u>IMPORTANT!</u>—for CM card changes:

<u>If aborting a ONP/CM Card Replacement</u>—Once the Operating Company and Nortel Networks agree all tests have passed satisfactorily, the Applicator must <u>wait</u> to allow the on-site **Installer** to complete the following step:

- re-install the original hardware on the Inactive side CM shelf

- SYNC the switch when done

- return switch to the **Applicator** (who will complete POSTSWACT, *steps 1.b and 1.c below*)

1 **App/ACT** POSTSWACT will STOP at step BEGIN_TESTING to allow the Site to complete testing. When testing is complete, SYNC the CM processors as follows.

Note: Do not enter POSTSWACT again until the processors are in SYNC.

a. `> MAPCI;MTC;CM;SYNC`
`> YES` *{for confirmation}*

`> QUIT MAPCI`

b. `> REXTEST SUSPEND ALL`

If in PRSM on CSP06 and higher:
`> AUTOPROC ALL STOP;AUTOPROC ALL DELAY`

These commands allow final activities to occur without interruption, including dumping an image of the new PCL.

c. `> POSTSWACT` *{still in BCSUPDATE}*

At this point BCSUPDATE will run the remaining POSTSWACT steps and set them to "complete" when they pass. If any step fails, follow given instructions to correct the problem, then continue by typing: POSTSWACT.

8.5.9 Procedure 9 - Finish POSTSWACT EABORT

1   **App/ACT** Clean up SFDEV by erasing any application-related files (for example: FEATDATA, SITEINFO, and DIRP_INAC).

2   **Site/ACT** For security the operating company should verify passwords for users ADMIN and OPERATOR.

3   **Site/ACT** Reassign all current PROFILE information (LOGIN or RESTART) in SFDEV.

4   **Site/ACT** Reassign any temporary log ROUTING setup via LOGUTIL.

5   **App/ACT** If table PADNDEV was manually changed for mate-side patching, restore the original data in this table to point to the correct patch download device(s).

6   **Site/ACT** Reassign any changes in the INTEG level of the MAP (for example, UPTH, BUFFSEL, FILTER and others).

7   **Site/ACT** Return PORTS and USER information back to original values.

8   **Site/ACT** Notify DNC end users to LOGIN the DNC.

9   **Site/ACT** If Network Management code blocking was removed earlier, have Network Maintenance personnel restore code blocking active.

8.5.10 Procedure 10 - Start journal file

1 **Site/ACT** If equipped, start journal file and verify started.

a. `> JF START`

b. `> MAPCI;MTC;IOD;DIRP`

c. `> QUERY JF ALL`
QUERY JF should respond with "AVAIL." If a standby device is being used, both Active and standby volumes should be marked "AVAIL."

d. `> QUIT ALL`

8.5.11 Procedure 11 - Reset AutoONP steps

1   **App/ACT** Cancel the SWUPGRADE process and reset the AutoONP steps
on the current load to their original configuration.

> `> SWUPGRADE;CANCEL`

Two confirmations will be required to continue.

> `> YES`

> `> YES`

---

2   *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 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 to 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 media for the second or final PCL load only. The final PCL load media 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 final 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 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.
```

Example of TABAUDIT execute

```
TABAUDIT:
> EXECUTE


-------------------------------------------------------
|                                                     |
|                    TABAUDIT STATUS                  |
|                                                     |
-------------------------------------------------------


The following tables are INCLUDED:

   table OFCOPT (17)

The following tables are EXCLUDED:

  From table ACTPATCH (0)                to table OFCSTD (16).
  From table OFCENG (17)                 to table OCFPORT (927).

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

> yes
Creating TABAUDIT summaryfile: SUMMARY$MODEM on SFDEV.
Starting DMS data verification ...

Table OFCOPT: New table control.
Completed tuple checking.
SUMMARY: Tbl OFCOPT: tuples checked 95, passed 95, failed 0.

Data verification is complete.
```

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 QUITing out of a standard TABAUDIT session, the user loses that session's parameters. When QUITing out of an AUTOTABAUDIT session, the user is placed back in the standard TABAUDIT increment, and as long as the automated session is active, the session parameters are preserved.

All data that AUTOTABAUDIT captures is stored in protected store. This includes table statistics (time, date and error counts), and the keys of tuples containing errors.

AUTOTABAUDIT has a couple of restrictions. Sessions of AUTOTABAUDIT and TABAUDIT can be running at the same time, however; only one session can be verifying a specific table at a time. Two sessions of AUTOTABAUDIT 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 <table>

Examples:

> CLEAR SCHEDULE ALL   % Clear all specified timeframes

> CLEAR FAILED linestat   % Clear error information for table linestat

The TIMEFRAME command

The timeframe command is used to specify the start time and stop time for automated TABAUDIT processing activities. The modified command will provide users the option to specify the weekday in the timeframes. The syntax will be changed accordingly to:

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

           | DAILY <start time> <stop time>

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

           | MONTHLY <start time> <day of month> <stop time>
             <day of month>

Note: The duration of the timeframe can not exceed six hours. For monthly option, the 31st day of each month is not allowed.

Examples:

>TIMEFRAME WEEKLY 08:00 MON 10:00 MON

   % Run every Monday 8:00 - 10:00 am

>TIMEFRAME WEEKLY 23:00 FRI 02:00 SAT

   % Run every week between 23:00 Friday to 2:00 Saturday

>TIMEFRAME DAILY 08:00 10:00

   % Run everyday 8:00 - 10:00 am

>TIMEFRAME SINGLE 11:20 12:30

   % Start at 11:20 and stop at 12:30 today

>TIMEFRAME MONTHLY 07:00 07 09:00 07

   % Run 7th of every month from 7:00 to 9:00

The REPORT command

The report command is used to generate audit result reports. Users can generate reports for all included tables, all tables with errors, all tables checked, all tables not checked, or all tables in table DART. The new report command will allow users to view the tables changed since the last audit. The modified syntax of the command is:

REPORT   NOTCHECKED [<device>] [<filename>]

| | CHECKED [<device>] [<filename>]

| | INCLUDED [<device>]

| | ERRORS [<device>]

| | ALL [<device>]

| | CHANGED [<device>] [<filename>]

| | <table> [<device>] [<filename>]

Examples:

> REPORT CHANGED   % Report all tables changed since last audit

> REPORT ofcvar vol2 errfile   % Generate errfile for table ofcvar on vol2

> REPORT INCLUDED vol1   % Report on all included tables on vol1

> REPORT ERRORS   % Report on all tables with errors

> REPORT NOTCHECKED   % Report on all tables not checked

> REPORT CHECKED   % Report on all tables checked

Some examples of the report are shown as follows:

The report format for the options checked, included, all, errors, and <table>:

DART Table Name	Table Control	Checked	Pass	Fail	Start Time	Elapsed Time
0:VERSIONS	New	124	124	0	1996/07/06 23:31:22.55:	11.567

Total Number of Tables Reported for this report option: 1
Total Number of Passed Tuples for this report option: 124
Total Number of Failed Tuples for this report option: 0
Total Number of Verified Tuples for this report option: 124
Total Elapsed Time to verify the above tables: :11.567

The report format for the option notchecked:

DART Table Name	Table Control	Checked	Pass	Fail	Start Time	Elapsed Time
1:ACTPATCH	New	: Table has not been checked.				
2:VRINV	New	: Table has not been checked.				
3:SOCVAR	New	: Table has not been checked.				
4:SOCFEAT	New	: Table has not been checked.				
5:SOCOPT	New	: Table has not been checked.				

Total Number of Tables Reported for this report option: 5
Total Number of Passed Tuples for this report option: 0
Total Number of Failed Tuples for this report option: 0
Total Number of Verified Tuples for this report option: 0
Total Elapsed Time to verify the above tables :   :00.000

The report format for the option changed:

DART Table Name	Table Control	Changed
0:VERSIONS	New	Table has been changed
3:SOCVAR	New	Table has been changed
5:SOCOPT	New	Table has been changed

Total Number of Tables Reported for this report option:3

The AUTO command

The auto command is used to place users in the automated TABAUDIT level. Currently, only one user can be in the AUTOTABAUDIT level.

The syntax of this command is:

AUTO

The modified command will allow any users to enter the automated TABAUDIT level, display the status of execution and print the report, even if there is a user already at the automated TABAUDIT level. The restriction of allowing only one user to invoke the **EXECUTE** ci command is still in effect. The syntax of the command will not be changed.

Restrictions/limitations

The new CI command Report changed is used to show all the tables that changed since the last audit. However, tables changed due to side effects may not be reported by this command.

The enhanced timeframe command can specify the monthly execution of AUTOTABAUDIT. However, it does not allow to specify the 31st day of a month by the monthly option.

The duration of the timeframe is restricted to maximum six hours.

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 <u>Inactive</u> terminal enter:

   ```
   Mate > HALT                                    {must be in TABXFR increment}
   ```
   TABXFR process will halt after the current table is completely moved. This will not interrupt tables in the process of being moved.

2   To *stop* TABXFR during the data transfer of a long table, on the <u>Inactive</u> terminal type:

   ```
   Mate> HALT NOW                                              {in TABXFR}
   ```
   TABXFR process will halt immediately, even in the middle of the table.

3   To *restart* the data transfer use the STARTXFR command. This starts from the last table successfully completed.

   To restart TABXFR, on the <u>Inactive</u> terminal enter:

   ```
   Mate> STARTXFR                                          {still in TABXFR}
   ```

4   **ACT** You may, instead, ABORT (stop and reschedule) the application by typing on the <u>ACTIVE side</u>:

   ```
   > BCSUPDATE;ABORT_PRESWACT
   ```
   Resets DUMP_RESTORE_IN_PROGRESS bool in OFCSTD to "N"

   ```
   > TABXFR;CANCEL
   ```
   Enables Patcher/PRSM and turns on AUTODUMP and AUTOPATCH

   ```
   > QUIT ALL
   ```

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: <u>0023</u> E OFCENG

  These numbers represent the order TABXFR will transfer all the tables. When using XFRFROM, the Applicator is responsible to follow this order.

****

Note:

XFRFROM must be used *only with non-recursive tables!* XFRFROM will skip tables if used on recursive tables.

Recursive tables are identified by the following message text:

"Table is recursive. Verify that any <table_name> data failures apply when table is run again later."

****

- An errored non-recursive table may call many recursive tables before STOPIF can halt the transfer process.

- The non-recursive table logged as attempting transfer immediately before the recursive table(s) is the table which called them.

- As non-recursive tables reach STOPIF and are repaired, note the DART number of the table to be repaired. The table with the next higher DART_number is the table to be used with XFRFROM, once the errored table has been acceptably transferred.

DUMP	— 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 stops all work done by SWUPGRADE so far. Once canceled SWUPGRADE must be re-started. Use the PAUSE command for halting the SWUPGRADE temporarily.

WARNING: During environment initialization steps any CANCEL command should be executed on the same terminal from which the START command was issued. Otherwise a trap will be generated.

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 blanks 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 new step or copies 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, RECVTIME).

- ALARM has been obsoleted in BCS33 and beyond.

System Response: Information is displayed to terminal.

QUERYSWACT—this command checks the office configuration to determine which CC WarmSWACT command (RESTARTSWACT or NORESTARTSWACT) should be used.

System Response: If the office supports NORESTARTSWACT the response is as follows:

"NORESTARTSWACT is recommended for initiating a CC WarmSWACT. Further checking will be done when SWACT is invoked."

Otherwise, the following message is displayed:

"RESTARTSWACT must be used for initiating a CC WarmSWACT."

NORESTARTSWACT—this command executes the CC WarmSWACT process and performs all of the necessary prechecks to activate the CC WarmSWACT. PRESWACT steps of BCSUPDATE must all be executed successfully before a NORESTARTSWACT will be allowed. This command is valid only in BCS36 and greater.

Optional parameter:

• NOMATCH will disable the matching of device statuses between the Active and Inactive sides of the switch. WARNING: Do not use this option unless there is no other choice. Device statuses after the CC WarmSWACT are not guaranteed hence several devices may be out of service after the CC WarmSWACT.

System Response: The steps being executed as part of the CC WarmSWACT will be displayed to the terminal and logs will be generated (SWCT102). SWACT will occur. If a NORESTARTSWACT cannot be executed in this office the following message will be displayed:

"RESTARTSWACT should be used instead of NORESTARTSWACT. NORESTARTSWACT command aborted."

RESTARTSWCT/RESTARTSWACT—this command executes the CC WarmSWACT process and performs all of the necessary prechecks to activate the CC WarmSWACT. In BCS31 and greater the PRESWACT steps of BCSUPDATE must all be executed successfully before a RESTARTSWCT/RESTARTSWACT will be allowed. RESTARTSWCT in BCS32 and lower. RESTARTSWACT in BCS33 and higher.

Optional parameter:

• NOMATCH will disable the matching of device statuses between the Active and Inactive sides of the switch. WARNING: Do not use this option unless there is no other choice. Device statuses after the CC WarmSWACT are not guaranteed hence several devices may be out of service after the CC WarmSWACT.

System Response: The steps being executed as part of the CC WarmSWACT will be displayed to the terminal and logs will be generated (SWCT102). SWACT will occur followed by a COLD restart. If a NORESTARTSWACT is supported by this office the following message will be displayed which requires a YES/NO response from the user:

"NORESTARTSWACT should be used instead of RESTARTSWACT. Do you wish to continue with RESTARTSWACT?"

ABORTSWCT/ABORTSWACT—this command executes the CC WarmSWACT process and performs all of the necessary prechecks to activate the CC WarmSWACT. In BCS31 and lower the RESTARTSWCT command should be used in place of this command. This command does not require PRESWACT to be performed before execution. This command should only be used when aborting a BCS application. ABORTSWCT in BCS32 and lower. ABORTSWACT in BCS33 and higher.

Optional parameter:

- NOMATCH will disable the matching of device statuses between the Active and Inactive sides of the switch. WARNING: Do not use this option unless there is no other choice. Device statuses after the CC WarmSWACT are not guaranteed hence several devices may be out of service after the CC WarmSWACT.

- NOCHECK will override the requirement for all devices to be OK before a CC WarmSWACT. Therefore a device can be CBSY for instance and the CC WarmSWACT will still be allowed. Available in BCS34 and higher. WARNING: Use this option only as a last choice after exploring other choices.

System Response: The steps being executed as part of the CC WarmSWACT will be displayed to the terminal and logs will be generated (SWCT102). SWACT will occur followed by COLD restart.

STATUSCHECK—this command matches statuses for devices between the Active and Inactive side of the switch. It verifies that the STATUSUPDATE step executed in PRESWACT was successful.

System Response: A SWCT109 log is generated for each type of device that has passed the STATUSCHECK process. A SWCT110 log is generated for each type of device that has failed the STATUSCHECK process. Each device of the failed type that mismatches is displayed to the terminal.

MODCHECK—this command checks for necessary CC WarmSWACT application modules on the Inactive side and outputs any modules which are missing. Missing modules will cause the CC WarmSWACT to fail and

therefore must be investigated or overridden via the OVERRIDE option to MODCHECK. This command is valid in BCS32 and beyond.

Optional parameter:

- no parameter invokes checking for all CC WarmSWACT application modules.

- OVERRIDE will disable the checking for requested missing modules and hence disable the functions performed by those CC WarmSWACT applications.

- RESET will enable the checking for requested missing modules and hence enable the functions performed by those CC WarmSWACT applications.

System Response: SWCT113 log will be output if MODCHECK is successful. SWCT114 log will be output if MODCHECK fails. SWCT115 log will be for every missing module. SWCT116 log will be output for every module for which the OVERRIDE/RESET options are used.

RESUMEPM—should not be used. This is a very dangerous command and should only be used by qualified personnel.

System Response: Some PMs may go SYSB. Do not use this command.

RESTOREXECS—this command will load execs to any or all PM types.

CAUTION
**This command should only be used in emergency situations
by qualified personnel.**

Non optional parameter:

- <PM_TYPE> {TM, LM, DCM, RLM, XPM, ALL}

System Response: PM type(s) chosen will have execs loaded. No response to terminal.

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 <u>SDM</u> perform procedure 1
If the PRIMARY billing is on <u>DPP/BMC</u> perform procedure 2
If the PRIMARY billing is on <u>DISK</u> perform procedure 3
If the PRIMARY billing is on <u>TAPE</u> perform procedure 4
If office is using Automatic File Transfer (<u>AFT</u>) perform procedure 5
If office is using <u>DRM</u> billing perform procedure 6
For all other <u>DIRP</u> billing preparation perform procedure 7
For Parallel DIRP preparation see procedure 8

Procedure 1 - SDM Primary Billing

<u>*ATTENTION*</u>*:* If office is equipped with <u>SDM</u> 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
```

<u>**IMPORTANT:**</u> 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 DIRPPOOL are* <u>*poll-able devices*</u> *(excluding parallel tapes); and if so, then what vendor? The following may apply to not only AMA, but also SMDR or other DIRP subsystems. This step only covers the example for AMA.* <u>*Do not continue until all tape devices are verified.*</u>

Note1: In a pool of DPP or BMC volumes, field DEVTYPE in table DIRPPOOL should be DPP (not TAPE).

Note2: This step does <u>not</u> apply to other vendors' poll-able devices (such as PDU, CGI, ECU, and others). This step is <u>not</u> for BMC/TAPE COMBO. This step does <u>not</u> apply to parallel volumes.

If <u>DPP</u> perform procedure 2a below.

If <u>BMC</u> 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 DRMPOOL;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 <u>after</u> 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 DRMPOOL;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"

The following ESD information is included in the email: Date, Supplier, Order Code, Product Description, File Name, Address Location, and Directory of drop box. The File Name format will be:

   PRODUCTCODE.xxX.R.PCL.PPC2.VAULT.X.D.tar.gz

Example: SN000009.9.R.PCL.XAPPC2.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 unzip and untar the load file.

```
# gunzip <file>.tar.gz          {unzips file, result will be <file>.tar}
# tar xvf <file>.tar          {uncompress file, result is directory <file>}
# cd <file>                         {change directory to new load file}
# ls                          {to list files, result is CM and MS load files}
```

Example:

```
# gunzip SN000009.9.R.PCL.XAPPC2.VAULT.38.D.tar.gz
# tar xvf SN000009.9.R.PCL.XAPPC2.VAULT.38.D.tar
# cd SN000009.9.R.PCL.XAPPC2.VAULT.38.D
# ls
```

—continued—

Electronic S/W Delivery (continued)

2   Depending on site configuration, log into the SDM or CBM to determine the destination directory path. Compare the size of the load file on the ESD drop box to the SDM/CBM destination directory. Ensure there is enough space on the destination directory.

    # cd /swd
    # ls –la
    # df –k <directory>

    If necessary create a directory named esd or use a pre-existing directory.

    # mkdir esd
    # chmod 777 esd

    Example: # df –k esd

    Filesystem 1024-blocks Free %Used   Iused %Iused Mounted on
    /dev/hd4   2162688   1235044   43%   1719   1% /

    Change to the directory just created.

    # cd <directory>

    Example: # cd esd

3   FTP to the ESD drop box server and transfer the uncompressed files to the SDM/CBM directory using binary transfer mode and record length of 1020.

    # ftp <IP address of ESD drop box server>
      <username>
      <password>
    #ftp> cd <directory>
    #ftp> ls -al
    #ftp> bin
    #ftp> get <file name>

    Example:

    #ftp> cd SN000009.9.R.PCL.XAPPC2.VAULT.38.D
    #ftp> ls -al
    #ftp> bin
    #ftp> get SN000009_CM.bin1020

    When transfer is complete:

    #ftp> bye

—continued—

Electronic S/W Delivery (continued)

4   At the SDM/CBM rename file to remove ".bin1020" from end and add product code and order code information obtained from the confirmation email.

    # cd <directory>
    # ls
    # mv <file name> <new file name>
      where <new file name> is in format: productcodeordercode_CM

    Example:

    #ls

      SN000009_CM.bin1020

    # mv SN000009_CM.bin1020 SN000009594424_CM

5   Log into DMS Core and list volume name (i.e. S00DIMAGE or F02LIMAGE) where image file will be transferred to.

```
> DISKUT
> LF <volume_name>
> QUIT
```

ATTENTION

**If the DMS Core/Call Server is at CSP21/Base22 or below or
CSP22/Base23 without patch DDR66 applied perform
steps 6-7 then skip forward to step 10 (do not perform steps 8-9).
If the DMS Core/Call Server is at CSP23/Base24 or higher or
CSP22/Base23 with patch DDR66 applied then skip forward to step 8.**
The FTP server requires different steps for file transfer due
to a DMS FTP restriction for the Image file attribute.

The CSP level is equivalent to the TL layer identified by CI command:

> IMAGENAME
.

—continued—

Electronic S/W Delivery (continued)

6   On the DMS Core FTP to the SDM/CBM using C-side IP address for the
SDM/CBM. Change to directory in step 4 and list to ensure image file to be
transferred is present.

```
> ftp '<IP Address>'
ftp> <username>
ftp> <password>
ftp> cd <directory>
ftp> ls
```

7   Transfer image file to volume on the DMS Core determined in step 5.

IMPORTANT: For the image attribute to be set properly the following
commands must be done in sequence.

```
ftp> binary
ftp> lrecl '1020 img'
```

*NOTE: This command will generate an error message
       'Command Not Implemented' that can be ignored.*

```
ftp> get '<filename>' '/<VOLUME_NAME>/<filename>'
     where <filename> is new filename from step 4
     where <VOLUME_NAME> is from step 5 and in CAPS.
```

```
Example:
```

```
ftp> get 'SN000009594424_CM' '/F17IMAGE1/SN000009594424_CM'
```

```
ftp> bye
```

NOTE: Skip forward to step 10.

—continued—

Electronic S/W Delivery (continued)

8   *ATTENTION:* Perform steps 8-9 only if the DMS Core is at CSP23/Base24 or higher or CSP22/Base23 with patch DDR66 applied.

On the DMS Core setup the FTP user.

```
> FTP
> SHOWSVUSERS
> ADDUSERINFO NORTEL NORTEL :/<volume_name> Y
   where <volume_name> is from step 5
> 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 -> 1   Sessions Active -> 0-
   USERNAME: NORTEL DEFAULTDIR: /F02LIMAGE ACTIVE SESSIONS: 0
    ABSOLUTEPATHNAME: yes COMMAND TIMEOUT: forever

9   *ATTENTION:* Perform this step only if the DMS Core is at CSP23/Base24 or higher or CSP22/Base23 with patch DDR66 applied.

On the SDM/CBM change directory to the directory in step 4 and list directory to ensure image file to be transferred is present. FTP to the CM and transfer image file to volume on the DMS Core determined in step 5. Login with FTP user and password from step 8.

cd <directory>
ls
ftp cm
#ftp> <ftp user>
#ftp> <password>
#ftp> bin
#ftp> quote site lrecl 1020 img
#ftp> put <file name>
#ftp> bye

Example:

#ftp> put SN000009594424_CM

—continued—

Electronic S/W Delivery (continued)

10   On the DMS Core list the volume to confirm the image file was successfully transferred and verify the load file is marked with the image attribute (I).

```
> QUIT ALL
> DISKUT
> LF <volume_name>
> QUIT
```

*Note***:** If the image attribute is not set to "I" the image file will not load.

IMPORTANT : Do not datafill ITOC with the no-data CM 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
-----------------------------------------------------------------------
MUC00022592444_MS    I F            0  1020      7152   14304 060720
SN000006592444_CM    I F            0  1020    204817  409634 060720
                     ^
                     |

         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 <u>quits</u> the TABAUDIT increment which will terminate the session and
clear all settings made for* this *session.*

—continued—

Procedure 1
Steps to execute manual TABAUDIT (continued)

CAUTION
Do not attempt to view the Summary File until the
TABAUDIT has completed.
Doing so will terminate the TABAUDIT session.

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

Example of TABAUDIT execute

```
TABAUDIT:
> EXECUTE


-------------------------------------------------------
|                                                     |
|                    TABAUDIT STATUS                  |
|                                                     |
-------------------------------------------------------


The following tables are included:

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

The following tables are excluded:

   No tables have been excluded.

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

> yes
Creating TABAUDIT summaryfile: SUMMARY$MAP on SFDEV.
Starting DMS data verification ...
   .
   .
Data verification is completed.
```

—continued—

Procedure 1
Steps to execute manual TABAUDIT (continued)

2 After the TABAUDIT has finished running, obtain an error REPORT to see the results of the testing.

  Note: Several useful options are available with the REPORT command. Type HELP REPORT to see the options.

```
TABAUDIT:
> REPORT ERRORS
```
The REPORT ERRORS command displays tuples that are in question. To see detailed information on why a tuple has failed, position on the table tuple in question and issue a CHECK command. This will display the verify proc messages that fail.

3 Review and correct all tables with recorded errors. Then execute TABAUDIT again on any table that was changed or corrected.

```
TABAUDIT:
> INCLUDE <table_name>

TABAUDIT:
> EXECUTE

TABAUDIT:
> REPORT <table_name>
```

  Nortel 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 your are able to log into the switch (i.e., once A1 is flashing) perform the following sequence:

On the originating set:

• Ensure that a voice path has been maintained by blowing into phone on originating set and listening for the blowing on the terminating set

On the terminating set:

• Ensure that a voice path has been maintained by blowing into phone on terminating set and listening for the blowing on the originating set

Leave both handsets 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" is signifies that this is a French BMMI DD

<filetype> will be one of fvocab, evocab, or pbook.

So when listing the contents of the SLM tape, you will likely see something like this:

csp04-1.F.fvocab
csp04-1.F.evocab
csp04-1.F.pbook

There is a fourth file called "bmmiloadfile" that contains the actual commands to load the BMMI DD. This file is provided in order to simplify the operation of loading of the BMMI DD for the craftsperson. The typical contents of file "bmmiloadfile" are:

bmmi
baseload csp04-1.F.fvocab french
baseload csp04-1.F.evocab french
baseload csp04-1.F.pbook french
ispeak french

Note: Each bmmiloadfile may look slightly different depending on the sequence number and the "csp" number of the generated DD files.

Manual loading

- To *manually load* the BMMI DD files without using the bmmiloadfile, you must first enter the "bmmi" utility -

```
> BMMI
BMMI:
```

Now you are ready to load the actual files using the "baseload" command -

```
> BASELOAD <filename> FRENCH
```

so, for example, we would enter -

```
> baseload csp04-1.F.fvocab french
```

```
> baseload csp04-1.F.evocab french
```

```
> baseload csp04-1.F.pbook french
```

While still in the "bmmi" utility, activate the French BMMI functionality by using the "ispeak" command -

```
BMMI:
```

```
> ISPEAK FRENCH
```

Or, to go back to English enter -

```
> ISPEAK ENGLISH
```

Note: This will only affect the terminal that you are using.

Unloading

- Some time it may be necessary to *unload* the DD files. This is accomplished with the "baseunload" command.

    You must first enter the "bmmi" utility -

    ```
    > BMMI
    BMMI:
    ```

    Now you can unload the files using the command -

    ```
    > BASEUNLOAD <DD_filetype>
    ```

    where the only acceptable filetypes are:

    "TVOCAB"   (refers to the CSPp04-1.F.fvocab file)

    "EVOCAB"   (refers to the CSP04-1.F.evocab file)

    "PHRASEBOOK" (refers to the CSP04-1.F.pbook file)

    For example -

    > baseunload TVOCAB

    > baseunload EVOCAB

    > baseunload PHRASEBOOK

    Note: The "T" in "TVOCAB" is not a spelling error, rather it stands for Translated VOCAB.

12.11   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;HLRSBY;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_{UPGRADE}** Enable Mated-Pair diversion.

> MAPCI;MTC;APPL;HLR;HLRSBY;RTS DIVERSION

> QUIT ALL

---

4   **HLR_{UPGRADE}** Handover all subscribers in the HOME partition from
HLR_{UPGRADE} to HLR_{MATE}.

> MAPCI;MTC;APPL;HLR;HLRSBY;SUBMNG

> POST FILTER PRTN HOME;HANDOVR ALL
*Last commands post and hand all subscribers except test ones over
HLR_{UPGRADE} to HLR_{MATE}.*

> QUIT ALL

---

5   **HLR_{UPGRADE}** Return test subscribers back to HOME partition on HLR_{UPGRADE}.

> 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_{MATE}.

---

6   **HLR_{UPGRADE}** Check that all subscribers on HLR_{UPGRADE} 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**_MATE_   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**_MATE_   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 $HLR_{UPGRADE}$ and HLR_{MATE} is different then the correct 'Mated-Pair Release Version' parameter must be set up on both $HLR_{UPGRADE}$ and HLR_{MATE} to allow synchronization between both HLRs. The table of the 'Mated-Pair Release Version' parameter values for $HLR_{UPGRADE}$ and HLR_{MATE} is shown below (it assumes that $HLR_{UPGRADE}$ is running on the GSM18 release after upgrade).

		on $HLR_{UPGRADE}$	on HLR_{MATE}
Mate HLR software release version	17 First HLR is in the Mated-Pair is upgraded	GSM17	N/A
	18 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　**$HLR_{UPGRADE}$**　Set 'Mated-Pair release version' parameter and turn SYNC back on.

Note: The following commands turn SYNC, HANDOVER and DIVERSION on.

```
> TABLE GHLRPARM;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 HLRMATE is running on gsm17 release:
> REP STANDBY STANDBY Y ACTIVE Y Y Y 611237 GSM17


Example: If HLRMATE 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_{MATE}**   Set 'Mated-Pair release version' parameter and
turn SYNC back on.

ATTENTION*: This step should only be performed if HLR_{MATE} is running on
gsm18 release*

```
> TABLE GHLRPARM;RWOK ON;OVE;VER OFF

> REP STANDBY STANDBY Y ACTIVE Y Y Y <HLR Number> GSM18

> QUIT ALL
```

3   **HLR_{MATE}**   Turn SYNC on.

ATTENTION*: This step should only be performed if HLR_{MATE} is running on
gsm17 release*

```
> TABLE GHLRPARM;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_{MATE} 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_{MATE} without the window of vulnerability during upgrade.

1   **HLR_{MATE}**   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_{MATE}**   Handover subscribers back to $HLR_{UPGRADE}$.

> `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_{UPGRADE}** 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_{UPGARADE} 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 3.2.10).*

---

2   **HLR_{UPGRADE}**   Set all acting subscribers (excluding) to Maintenance Blocked
state. This avoids Mated-Pair updates sending to HLR_{MATE}

*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_{MATE}**   Set all acting subscribers to Maintenance Blocked state. This
avoids Mated-Pair updates sending to HLR_{UPGRADE}.

*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_DUTING_UPGRAD parameter must be turned off.

1   **HLR_{UPGRADE}** 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$_{UPGRADE}$ and the HLR$_{MATE}$:

1   **HLR_{UPGRADE}** Turn SYNC off on HLR$_{UPGRADE}$.

> MAPCI;MTC;APPL;HLR;HLRSBY

> BSY SYNC

> QUIT ALL

2   **HLR_{MATE}** Turn SYNC off on HLR$_{MATE}$.

> MAPCI;MTC;APPL;HLR;HLRSBY

> BSY SYNC

> QUIT ALL

3   **HLR_{UPGRADE}** Turn HANDOVER off on HLR$_{UPGRADE}$.

> MAPCI;MTC;APPL;HLR;HLRSBY

> BSY HANDOVER

> QUIT ALL

4   **HLR_{MATE}** Turn HANDOVER off on HLR$_{MATE}$.

> 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$_{UPGRADE}$ and the HLR$_{MATE}$:

1   **HLR$_{UPGRADE}$**   Enable SYNC on HLR$_{UPGRADE}$.

> `MAPCI;MTC;APPL;HLR;HLRSBY`

> `RTS SYNC`

> `QUIT ALL`

---

2   **HLR$_{MATE}$**   Enable SYNC on HLR$_{MATE}$.

> `MAPCI;MTC;APPL;HLR;HLRSBY`

> `RTS SYNC`

> `QUIT ALL`

---

3   **HLR$_{UPGRADE}$**   Enable HANDOVER on HLR$_{UPGRADE}$.

> `MAPCI;MTC;APPL;HLR;HLRSBY`

> `RTS HANDOVER`

> `QUIT ALL`

---

4   **HLR$_{MATE}$**   Enable HANDOVER on HLR$_{MATE}$.

> `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 <u>site preparation</u>, the procedure *Fill in Test Call Scripts* instructs the operating company to "Fill in and test the Test Call Scripts." This is to provide a thorough test plan exercise for validating the new software load.

2. Then, <u>after activating the new software load</u>, the procedure *Do Test Calls* instructs the operating company to "Perform TEST CALLS that were identified ahead-of-time."

The call scripts provided below are only examples of call types that could be included in the Test Call Scripts. These samples include only basic call processing tests and provide some, but not all, critical test calls. These are provided only as a guideline. Each telephone/carrier office should determine the best mix of test calls to use based on the office's unique configuration.

CAUTION
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.

<div style="border:1px solid">

CHECKLIST
Nortel recommends including the following items
in your POSTSWACT testing routine.
Add any other items that are determined to be important.

</div>

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 or CLLI	To: Call type Digits dialed	Test Result
1	Check for DIALTONE on all line modules			
2	Verify '0' minus route			
3	Verify '0' plus route			
4	Verify ONI 1-7, 1-10 digits			
5	Verify EAS incoming/outgoing routes			
6	Verify CAMA routes			
7	Verify local Tandem routes			
8	Verify DDO route			
9	Verify Directory Assistance			
10	Verify critical service routes (911, police, file, hospitals, and radio stations)			
11	Verify TOLL COMP (DTS) route			
12	Verify 1FR intra-office call			
13	Verify Remotes: - EAS outgoing (one route) - '0' plus '0' minus - CAMA ANI - 1FR intra- Remote			
14	Verify Operator Intercept route			
15	Verify all tones, group alarms, and announcements functional			
16	Verify all (idle) customer/network Trunks			

13.2.2   Procedure 2 - Critical test calls for Wireless

Test	Call Type	Description	Pass/ 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.		
continued				

*Additional Mobiles needed to perform these tests.

Procedure 2
Critical test calls for Wireless (continued)

Test	Call Type	Description	Pass/ Fail	Comments
Local Mobile continued				
11a	Mobile to Mobile to Land	Perform 3-Way call.		
11b	Mobile to Mobile	Perform Ported LNP call.		
11c	Mobile to Mobile	Perform Non Ported LNP call.		
Roaming Mobile				
12*	Mobile to Land Local	Perform "Local" Mobile to Land call, 7 digits if available 10 digits if mandatory 10 digit dialing is in place.		
13*	Mobile to Land Toll	Perform "Long Distance" Mobile to Land call, 10 digits.		
14*	Land to Mobile Call Delivery	Perform Land to Mobile, Call delivery to roaming mobile.		
Prepaid Mobile				
15*	Mobile to Land Local	Perform "Local" Mobile to Land call, 7 digits if available 10 digits if mandatory 10 digit dialing is in place. Validate balance message is played.		
16*	Mobile to Land Toll	Perform "Long Distance" Mobile to Land call, 10 digits. Validate balance message is played.		
17*	Land to Mobile	Perform Land to Mobile call.		
continued				

*Additional Mobiles needed to perform these tests.

Procedure 2
Critical test calls for Wireless (continued)

Test	Call Type	Description	Pass/ Fail	Comments
Handoff				
18	Mobile to Land Handover	Perform Mobile to Land call. Validate Handovers to adjacent sector completes.		
19	Mobile to Land Handoff	Perform Mobile to Land Call. Validate Handoff to adjacent site completes.		
20	Land to Mobile Intersystem Handoff	Perform Mobile to Land Call. Validate Handoff to adjacent system completes with handback.		
SMS				
21	Mobile Originate – SMS message	Perform Mobile originated SMS message.		
CDPD (Nortel CDPD solution MSC's only)				
22	System Access	Validate system access to the internet.		
end				

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 <u>does not</u> 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: PBSLEC012LEC015A   or   PBSLEC015LEC017XA

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 <u>CMMOCK Test Tape</u> or the <u>PCL Final Load Tape</u> 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).

   <u>*REMINDER*</u>*: The no-data CM load file is located on the CMMOCK Test Tape or the PCL Final Load Tape.*

   <u>***ATTENTION***</u>***: 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.

   <u>*IMPORTANT*</u>*: 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}*
   > **lf S00D<volume>**   *{or S01D<volume>}*
   Where <volume> is the SLM disk volume with the CM load file.

   Make note of the name of the 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.

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

—continued—

Procedure 1
CMMOCK procedure steps (continued)

> **d.** Ensure there are no open files on the Inactive CM side disk volume.
>
> *<u>CAUTION</u>: 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. <u>Do not</u> attempt to close active DIRP/billing (AMA) files. Instead, from the DIRP MAP level ROTATE any active billing subsystems such as AMA, SMDR, OCC, and CDR.
>
> 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.
>
> *<u>REMINDER</u>:* 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}*
> > **lf 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 <u>CSP11 or higher</u>, initialize the CMMOCK
            platform. Type the following on the ACT_terminal:

            > **swupgrade cmmock**

            or

   b.   If the current Active load is <u>CSP10 or lower</u>, initialize the CM platform.
            Type the following on the ACT_terminal:

            > **swupgrade cm**

   c.   Press <return> twice to display the current <u>office header message</u>.
            Retain this header message for use in environment variable:
            INACT_LOGMSG (below).

5   Obtain a list of available <u>CI commands</u>. Type *HELP* to list all commands.
         Type *HELP <command>* to get a description for each 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 <u>environment variables</u>

         WARNING: During environment initialization any CANCEL command
         should be executed from the same terminal from which the START
         command was issued. Otherwise a trap will be generated

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. The CSP
         level is equivalent to the TL layer identified by CI command: IMAGENAME.

—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 20JUL2006 ***
```

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:
S01DIMG1 SN000009_CM DIRECT - Loads CM load file SN000009_CM from device S01DIMG1 using 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:
<u>Observe</u> the Trace_device to monitor the automatic process.

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

<u>Manual input</u> On the Trace_device watch for the message:

   "SWUPGRADE process has paused."

This means 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->)*

> 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_PARMS_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 PADNDEVS 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.*
>*SWUPRADE has now reached the SYNC_SWITCH step*
>*Are you ready to SYNC the SWITCH?*
>*Execution is not complete.*

—continued—

Procedure 1
CMMOCK procedure steps (continued)

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

Step: DRTIME_PRINT

Step: UNSPLIT_SWITCH *(XA-Core)*

Step: ENABLE_AUTOIMAGE

Step: SYNC_SWITCH *(CM/SLM)*

Step: RESTORE_PARMS

Step: RESET_DEVICES

Step: RESET_LOGIN_BANNER

Step: RESUME_REX_TEST

Step: START_JOURNAL_FILE

Step: PRINT_SWUPGRADE_REPORT

Step: STOP_RECORD

Step: 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

```
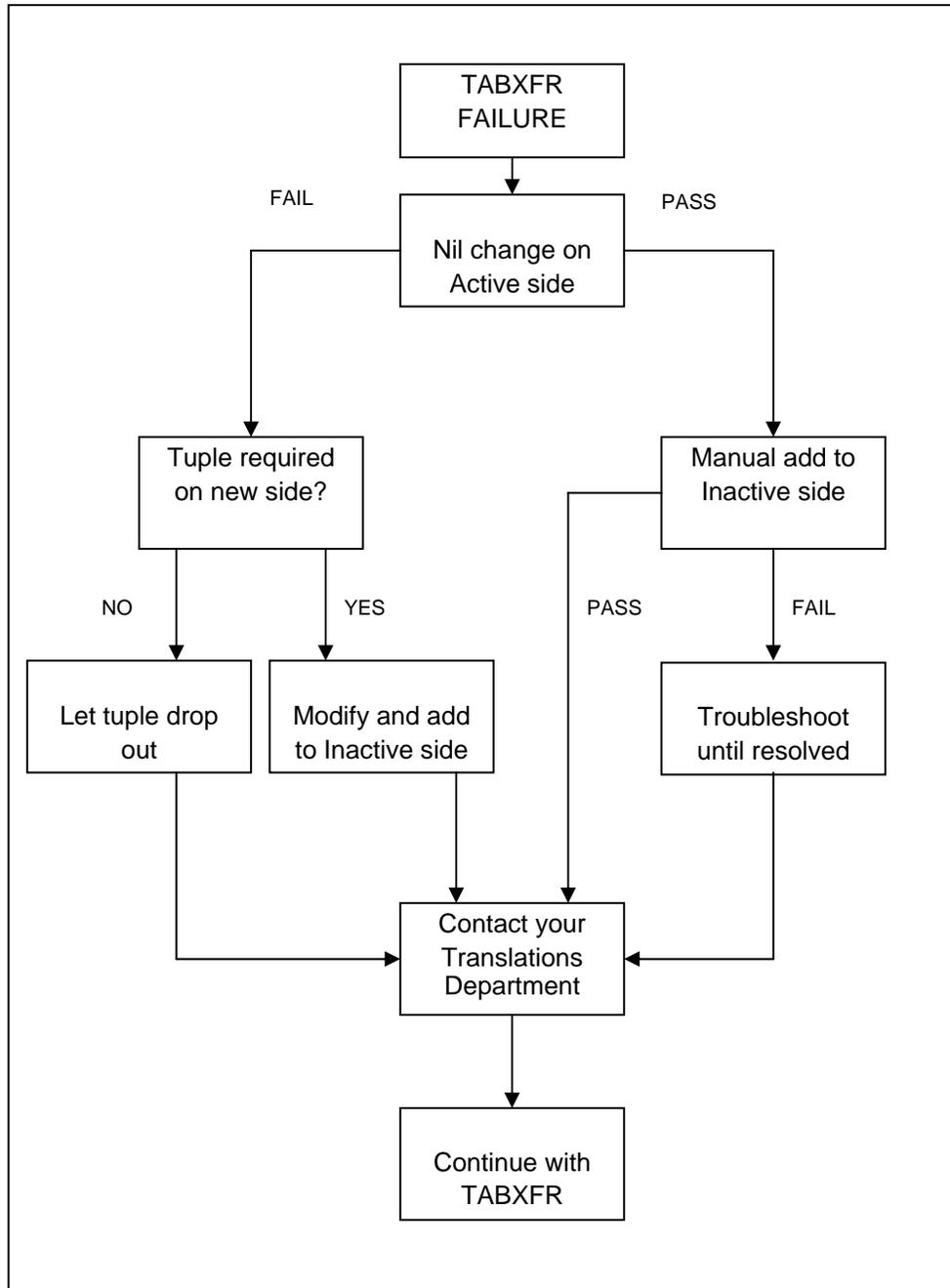                        ┌──────────────┐
                        │   TABXFR     │
                        │   FAILURE    │
                        └──────┬───────┘
                               │
   FAIL                        ▼                  PASS
          ┌─────────────┌──────────────┐────────────┐
          │             │ Nil change on│            │
          │             │  Active side │            │
          │             └──────────────┘            │
          ▼                                          ▼
  ┌──────────────┐                          ┌──────────────┐
  │Tuple required│                          │ Manual add to│
  │ on new side? │                          │ Inactive side│
  └──────────────┘                          └──────────────┘
    NO        YES                          PASS         FAIL
    │          │                            │            │
    ▼          ▼                            │            ▼
┌─────────┐ ┌──────────────┐          ┌──────────────┐
│Let tuple│ │ Modify and add│          │ Troubleshoot │
│drop out │ │ to Inactive   │          │ until resolved│
│         │ │ side          │          │              │
└─────────┘ └──────────────┘          └──────────────┘
    │            │            │            │
    │            ▼            ▼            │
    │      ┌──────────────┐                │
    └─────▶│ Contact your │◀───────────────┘
           │ Translations │
           │ Department    │
           └──────────────┘
                  │
                  ▼
           ┌──────────────┐
           │ Continue with│
           │   TABXFR     │
           └──────────────┘
```

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