**Nortel Communication Server 1000**

Nortel Communication Server 1000 Release 7.0

# Communication Server 1000M and Meridian 1

CS 1000M MG CP PII FNF to CS 1000M MG CP PIV FNF Upgrade

Document Number:  NN43021-474
Document Release:  Standard 04.02
Date:  June 2010

# Contents

# New in this release

This chapter contains information about Nortel Communication Server 1000 Release 7.0 new features.

## Hardware

### Common Processor Dual Core (CP DC) card

The Common Processor Dual Core (CP DC) card is introduced in CS 1000 Release 7.0.

The CS 1000M system supports the NTDW54AAE6 double slot metal faceplate CP DC card as a stand-alone Signaling Server platform.

The CP DC card contains a dual core AMD processor and upgraded components which can provide improvements in processing power and speed over existing Server cards.

The CP DC card requires the Linux Base Operating System. The CP DC card does not support the standard or high availability Call Server configuration.

## Other

See the following sections for information about changes that are not feature-related:

## Revision history

**June 2010**

Standard 04.02. This document is upissued to update the CS 1000M task flow graphic and to include CP PM version 2 content.

**June 2010**

Standard 04.01. This document is upissued to support Communication Server 1000 Release 7.0.

**June 2009**

Standard 03.03. This document is upissued to update the CP PM BIOS upgrade procedure.

**May 2009**

Standard 03.02. This document is upissued to include task flow graphics for Communication Server 1000 Release 6.0.

**May 2009**

Standard 03.01. This document is issued to support Nortel Communication Server 1000 Release 6.0.

**November 2007**

Standard 02.01. This document is issued to support Nortel Communication Server 1000 Release 5.5.

**July 2007**

Standard 01.02. This document is upissued with corrections for invoking the install menu during CP PIV and CP P4 upgrades.

**May 2007**

Standard 01.01. This document is upissued for Communication Server 1000 Release 5.0. This document contains information previously contained in the following legacy document, now retired: *Communication Server 1000M and Meridian 1 Large System Upgrades* (553-3021-258).

**May 2006**

Standard 5.00. This document is upissued with corrections for installing clock controllers and keycode upgrade procedure for CP PIV.

**January 2006**

Standard 4.00. This document is upissued with corrections for various upgrade procedures.

**August 2005**

Standard 3.00. This document is upissued to support CP PIV and Communication Server 1000 Release 4.5.

**September 2004**

Standard 2.00. This document is upissued for Communication Server 1000 Release 4.0.

**October 2003**

Standard 1.00. This document is a new NTP for Succession 3.0. It was created to support a restructuring of the Documentation Library. This document contains information previously contained in the following legacy document, now retired: *Upgraded Systems Installation: Upgrade to Options 51C, 61C, 81C* (553-3001-258).

# Finding the latest updates on the Nortel web site

The content of this documentation was current at the time the product was released. To check for updates to the latest documentation and software for CS 1000 Release 7.0, click one of the links below.

| | |
|---|---|
| Latest Software | Go directly to the Nortel page for CS 1000 Release 7.0 software. |
| Latest Documentation | Go directly to the Nortel page for CS 1000 Release 7.0 documentation. |

# How to get help

This section explains how to get help for Nortel products and services.

## Getting help from the Nortel Web site

The best way to get technical support for Nortel products is from the Nortel Technical Support Web site:

www.nortel.com/support

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. More specifically, the site enables you to:

*   download software, documentation, and product bulletins

*   search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues

*   sign up for automatic notification of new software and documentation for Nortel equipment

*   open and manage technical support cases

## Getting help over the telephone from a Nortel Solutions Center

If you don't find the information you require on the Nortel Technical Support Web site, and have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following Web site to obtain the phone number for your region:

www.nortel.com/callus

# Getting help from a specialist by using an Express Routing Code

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:

www.nortel.com/erc

# Getting help through a Nortel distributor or reseller

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.

# System information

This document is a global document. Contact your system supplier or your Nortel representative to verify that the hardware and software described is supported in your area.

## Subject

Use this document to perform upgrades on Meridian 1 Large Systems. This document also contains information about database transfers, Call Processor card upgrades, and network group upgrades.

This document also contains information about converting Release 3.0 or later software to CS 1000 Release 7.0 on Meridian 1 Options 51C, 61C, 81, 81C, CS 1000M SG and CS 1000M MG systems. For software conversion procedures prior to Release 3.0, see the *Software conversion procedures* (553-2001-320) NTP for software Release 24.

<table>
<tr><td>⚠️</td><td>

**IMPORTANT!**

Database conversion for Meridian 1 Options 21E, 51, 61, 71, STE, NT, and XT must be completed by Nortel's Software Conversion Lab. Consult the current Nortel price book for cost and contact information.

</td></tr>
</table>

### Note on legacy products and releases

This NTP contains information about systems, components, and features that are compatible with Nortel Communication Server 1000 Release 7.0 software. For more information about legacy products and releases, click the **Technical Documentation** link under **Support** on the Nortel home page:

www.nortel.com/

# Applicable systems

This document applies to the following systems:

- Communication Server 1000M Single Group (CS 1000M SG)

- Communication Server 1000M Multi Group (CS 1000M MG)

- Meridian 1 PBX 61C

- Meridian 1 PBX 81C

    *Note:*  When upgrading software, memory upgrades may be required on the Signaling Server, the Call Server, or both.

### System migration

When particular Meridian 1 systems are upgraded to run CS 1000 Release 7.0 software and configured to include a Signaling Server, they become CS 1000M systems. Table 1 lists each Meridian 1 system that supports an upgrade path to a CS 1000M system.

**Table 1**
**Meridian 1 systems to CS 1000M systems**

| This Meridian 1 system... | Maps to this CS 1000M system |
|---------------------------|------------------------------|
| Meridian 1 PBX 61C | CS 1000M Single Group |
| Meridian 1 PBX 81C | CS 1000M Multi Group |

## Signaling Server configuration

Meridian 1 Large Systems can be configured to run one or more Signaling Servers. The following Signaling Servers are supported in a Large System configuration for CS 1000 Release 7.0:

- CP PM Signaling Server

- Common Processor Dual Core (CP DC)

- Commercial off-the-Shelf (COTS) Signaling Server

For more information, see "Installing a Signaling Server" on .

## Upgrade paths

This document contains information about the following Large System upgrades:

- CS 1000M MG

- upgrades to FNF

- software upgrades

- network additions

The upgrades documented in this NTP are structured as source platform to target platform upgrades.

# Intended audience

This document is intended for individuals responsible for upgrading Large Systems.

This document is intended for individuals responsible for software conversion and memory upgrades.

# Conventions

### Terminology

The following systems are referred to generically as "Large System":

- Communication Server 1000M Half Group (CS 1000M HG)

- Communication Server 1000M Single Group (CS 1000M SG)

- Communication Server 1000M Multi Group (CS 1000M MG)

- Meridian 1 PBX 51C

- Meridian 1 PBX 61C

- Meridian 1 PBX 81

- Meridian 1 PBX 81C

The Common Processor Pentium Mobile, Common Processor Dual Core (CP DC), and Commercial off-the-Shelf (COTS) platforms are referred to as server.

# NTP feedback

Nortel strives to provide accurate documentation for our customers. However, if you feel there are errors or omissions in this document, your feedback is welcome.

Send comments via email to gntsdoc@nortel.com or open a problem report via the normal procedures.

Please provide as much information as possible including the NTP number, standard version and date of the document, as well as the page, problem description, and any supporting documentation and capture files.

# Related information

**CAUTION — Data Loss**

Only personnel who are familiar with the system and with conversion procedures should perform the conversion.

Read the applicable procedures carefully before beginning any the conversion.

*Note:* Converting software on single CPU systems disrupts call processing and allows service only to those telephones connected to Power Failure Transfer Units (PFTU).

**CAUTION WITH ESDS DEVICES**

To avoid damaging equipment from electrostatic discharge, wear a properly connected antistatic wrist strap when working on system equipment.

Perform pre-conversion and post-conversion procedures for every system conversion.

Throughout this document the term *media* refers to tape, disk, CD-ROM or Compact Flash (CF), whichever applies to the system.

The term **source** refers to the hardware and software that is currently running. The term **target** refers to the new hardware and software to which the system is converting.

> ⚠️ **CAUTION — Data Loss**
>
> Read "General software conversion information" in *CS 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458) before performing any operations.
>
> It contains information vital to the conversion process.

## NTPs

The following NTPs are referenced in this document:

- *Product Compatibility* (NN43001-256)

- *Converging the Data Network with VoIP* (NN43001-260)

- *Circuit Card: Description and Installation* (NN43001-311)

- *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)

- *IP Peer Networking: Installation and Commissioning* (NN43001-313)

- *Features and Services* (NN43001-106)

- *Software Input/Output: Administration* (NN43001-611)

- *Element Manager: System Administration* (NN43001-632)

- *IP Trunk: Description, Installation, and Operation* (NN43001-563)

- *Signaling Server IP Line Applications Fundamentals* (NN43001-125)

- *ISDN Basic Rate Interface: Features* (NN43001-580)

- *Software Input/Output: Maintenance* (NN43001-711)

- *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (NN43021-220)

- *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310)

- *Communication Server 1000M and Meridian 1: Large System Maintenance* (NN43021-700)

- *Communication Server 1000M and Meridian 1 Large System Upgrade NTPs* (NN43021-458 – NN43021-475)

## Online

To access Nortel documentation online, click the **Technical Documentation** link under **Support** on the Nortel home page:

www.nortel.com

## CD-ROM

To obtain Nortel documentation on CD-ROM, contact your Nortel customer representative.

## Technical support

For technical support contact information, see "Technical Assistance service" on .

# Preparing and planning for the upgrade

## Contents

This chapter contains the following topics:

# Introduction

This document implements a "source- to-target" approach to performing an upgrade. It is important to correctly identify the source platform, target platform, and maintenance window required to perform the upgrade.

> ### IMPORTANT!
>
> This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

Each section features check boxes indicating what state the system should be in at that stage of the upgrade. If the system is not in the proper state steps should be taken to correct this.

Each section is written to maintain Dial Tone where possible and limit service interruptions.

Before attempting any software or hardware upgrade field personnel should follow the steps in Table 2:

**Table 2**
**Prepare for upgrade steps (Part 1 of 2)**

| Procedure Step | Page |
| --- | --- |
| Planning | 23 |
| Upgrade Checklists | 26 |
| Preparing | 26 |
| Identifying the proper procedure | 26 |
| Connect a terminal | 27 |
| Printing site data | 27 |
| Performing a template audit | 30 |
| Backing up the database (data dump) | 31 |

**Table 2**
**Prepare for upgrade steps (Part 2 of 2)**

| Procedure Step | Page |
|---|---|
| Making the RMD bootable | 32 |
| Transferring the database from floppy disk to CF (customer database media converter tool) | 36 |
| Identifying two unique IP addresses | 42 |

# Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.

- Review the current release product bulletin related specifically to the software being upgraded.

- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.

    *Note:*  For information about adding new network shelves, see *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310).

- Ensure sufficient power for new columns/modules or applications.

- Identify all applications that are currently installed on the source platform.

- Identify and correct outstanding service problems.

- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.

- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.

- Prepare a contingency plan for backing out of the upgrade.

> **DANGER OF ELECTRIC SHOCK**
>
> In a DC-powered system, power to the column can remain on during the following procedures. In an AC-powered system, however, power to the entire column *must* be shut down throughout the procedures.

# Communication Server 1000 task flow

This section provides a high-level task flow for the installation or upgrade of a CS 1000 system. The task flow indicates the recommended sequence of events to follow when configuring a system and provides the NTP number that contains the detailed procedures required for the task.

For more information refer to the following NTPs, which are referenced in Figure 1 on :

- *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)

- *Communication Server 1000M and Meridian 1 Large System Installation and Commissioning* (NN43021-310)

- *Communication Server 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458)

**Figure 1**
**Communication Server 1000M task flow**

CS 1000 Network

Start

Back up databases

Establish UCM Deployment Server and Primary Security Server
NN43001-315

Build software library and provide keycodes
NN43001-315

Define pre-deployment strategy and commit
NN43001-315

Deploy applications to servers with bootable Linux media or patched release 6.0

Servers
Linux Server
VxWorks Call Server
Network Services
IM Presence
MAS
NRS
SIP Trunk Bridge
Subscriber Manager
CS 1000 Systems
CS 1000
CS 1000 HS
Signaling Server
NN43001-315

Manage Security
NN43001-604

End

CS 1000M

Start

Back up databases

Install CS 1000M CP PIV Core 0 VxWorks software
NN43041-310        NN43041-458

Establish database
NN43041-310        NN43041-458

Join Security domain
NN43041-310        NN43041-458

Install CS 1000M CP PIV Core 1 VxWorks software
NN43041-310        NN43041-458

Join Security domain
NN43041-310        NN43041-458

End

# Upgrade Checklists

Upgrade checklists can be found in "Upgrade checklists" on . Engineers may print this section for reference during the upgrade.

# Preparing

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.

- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (NN43021-220)).

- Verify proper cable lengths for the target platform.

- Determine and note current patch or Dep lists installed at the source platform.

- Determine required patch or Dep lists at the target platform for system-patchable components.

- Determine required patches or DEP lists for applicable applications.

- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.

- Secure the source software and key code.

- Secure the target software and key code.

- Verify the new key code using the DKA program.

- Print site data.

# Identifying the proper procedure

Each procedure has been written in a "source- to-target" format. Each procedure features warning boxes and check boxes placed at critical points.

Changing the procedure or ignoring the warning boxes could cause longer
service interruptions.

# Connect a terminal

**Procedure 1**
**Connecting a terminal**

A maintenance terminal is required to access the Core or Core/Net modules
during the upgrade procedure.

1   Connect a terminal to the J25 port on the I/0 panel in the *inactive* Core or
    Core/Net module.

2   The settings for the terminal are:

    **a.**   9600 baud

    **b.**   8 data

    **c.**   parity none

    **d.**   1 stop bit

    **e.**   full duplex

    **f.**   XOFF

3   If only one terminal is used for both Core or Core/Net modules, the
    terminal must be connected from side-to-side to access each module.
    An "A/B" switch box can also be installed to switch the terminal from side
    to side.

————————————————  **End of Procedure**  ————————————————

# Printing site data

Print site data to preserve a record of the system configuration (see Table 3
on ). Verify that all information is correct. Make corrections as
necessary.

*Note:* Items marked with an asterisk (*) are required. Other items are recommended for a total system status.

**Table 3**
**Print site data (Part 1 of 3)**

| Site data | Print command | |
| --- | --- | --- |
| Terminal blocks for all TNs | LD 20 | |
| | REQ | PRT |
| | TYPE | TNB |
| | CUST | <cr> |
| Directory Numbers | LD 20 | |
| | REQ | PRT |
| | TYPE | DNB |
| | CUST | <cr> |
| Attendant Console data block for all customers | LD 20 | LD 20 |
| | REQ | PRT |
| | TYPE | ATT, 2250 |
| | CUST | <cr> |
| *Customer data block for all customers | LD 21 | LD 21 |
| | REQ | PRT |
| | TYPE | CDB |
| | CUST | <cr> |
| Route data block for all customers | LD 21 | |
| | REQ | PRT |
| | TYPE | RDB |
| | CUST | Customer number |
| | ROUT | <cr> |
| | ACOD | <cr> |
| *Configuration Record | LD 22 | |
| | REQ | PRT |
| | TYPE | CFN |

**Table 3**
**Print site data (Part 2 of 3)**

| Site data | Print command | |
|---|---|---|
| *Software packages | LD 22 | |
| | REQ | PRT |
| | TYPE | PKG |
| *Software issue and tape ID | LD 22 | |
| | REQ | ISS |
| | REQ | TID |
| * Peripheral software versions | LD 22 | |
| | REQ | PRT |
| | TYPE | PSWV |
| ACD data block for all customers | LD 23 | |
| | REQ | PRT |
| | TYPE | ACD |
| | CUST | Customer Number |
| | ACDN | ACD DN (or <CR>) |
| Superloop card IDs and software version (peripheral controller, superloop network and controller cards) | LD 32 | IDC loop |
| Multi-purpose ISDN Signaling Processor (MISP) card | LD 27 | |
| | REQ | PRT |
| | TYPE | MISP |
| | LOOP | loop number (0-158) |
| | APPL | <cr> |
| | PH | <cr> |
| DTI/PRI data block for all customers | LD 73 | |
| | REQ | PRT |
| | TYPE | DDB |

**Table 3**
**Print site data (Part 3 of 3)**

| Site data | Print command | |
|---|---|---|
| Print the configured host information | LD 117 | PRT HOST (provides system IP addresses) |
| Superloops and XPEs | LD 97 | |
| | REQ<br>TYPE<br>SUPL | CHG<br>SUPL<br>Vxxx<br>V stands for a virtual superloop and xxx is the number of the virtual superloop.<br><br>xxx = 0-252 in multiples of four for MG 1000E |

*Note:* Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.

# Performing a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. An example of the information generated during the audit is listed below.

*Note:* The template audit may take an extended period of time on large systems. Run the audit during a low traffic period.



**CAUTION — Service Interruption**

**Loss of Data**

Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

**LD 01**    The audit begins as soon as LD 01 is entered.

```
TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW      CHECKSUM OK

TEMPLATE 0002 USER COUNT HIGH     CHECKSUM OK

TEMPLATE 0003 NO USERS FOUND


STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK       CHECKSUM OK

•

•

TEMPLATE 0120 USER COUNT OK       CHECKSUM OK

TEMPLATE AUDIT COMPLETE
```

# Backing up the database (data dump)

To back up system data, complete the following two procedures.

1    Perform a data dump to save all system memory to the hard disk.

2    Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

**Procedure 2**
**Performing a data dump**

1    Log into the system.

2    Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

   **LD 43**        Load program

3   When "EDD000" appears on the terminal, enter:

   **EDD**          Begin the data dump

> ⚠ **CAUTION**
>
> **Loss of Data**
>
> If the data dump does not succeed, do not continue.
> Contact your technical support organization. You must
> correct a data dump problem before the system can be
> upgraded.

4   The messages "DATADUMP COMPLETE" and "DATABASE BACKUP
    COMPLETE" will appear once the data dump is complete.

   **\*\*\*\***          Exit program

———————————— **End of Procedure** ————————————

## Making the RMD bootable

> ⚠ **CAUTION — Data Loss**
>
> The PC utility used in the following procedure
> (mkbootrmd.exe) does not validate whether the drive
> letter entered is a valid RMD CF card. You must enter
> the correct RMD drive letter when prompted or risk
> formatting the incorrect drive.
>
> *Note:* This utility is supported by all versions of
> Microsoft Windows.

The installation RMD CF card must come preformatted and bootable from
Nortel. Consumer CF cards are not bootable by default and must be made
bootable as outlined in Procedure 3 on .

**Procedure 3**
**Making the RMD bootable**

**1** After downloading the software image file, unzip it to a directory on your PC.

**2** Open the utilities folder.

**3** Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 2).

**Figure 2**
**mkbootrmd.bat**
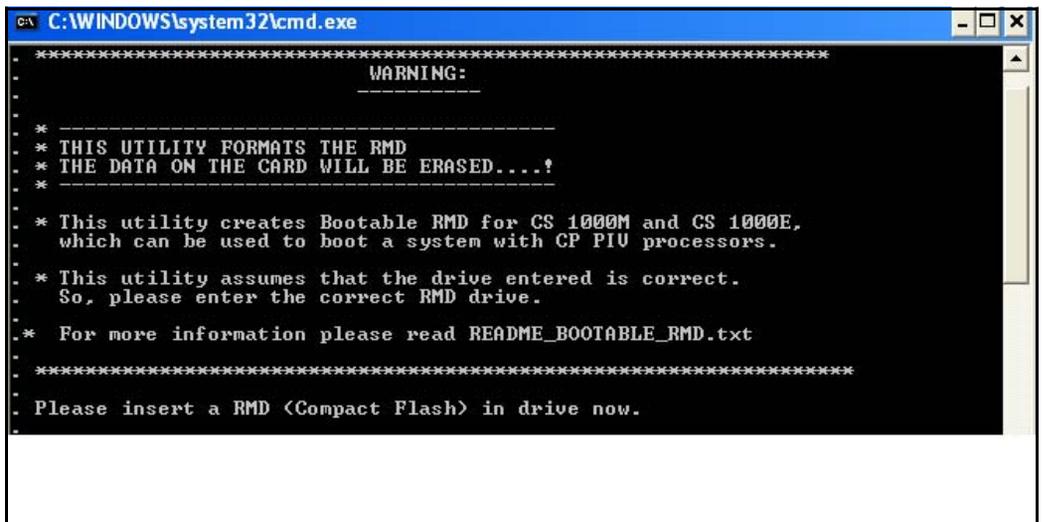
```
C:\WINDOWS\system32\cmd.exe                                           _ □ ×

. ***********************************************************************
.                              WARNING:
.                              --------
.
. *  ---------------------------------------------
. * THIS UTILITY FORMATS THE RMD
. * THE DATA ON THE CARD WILL BE ERASED....!
. *  ---------------------------------------------
.
. * This utility creates Bootable RMD for CS 1000M and CS 1000E,
.   which can be used to boot a system with CP PIV processors.
.
. * This utility assumes that the drive entered is correct.
.   So, please enter the correct RMD drive.
.* For more information please read README_BOOTABLE_RMD.txt
.
. ***********************************************************************
.
. Please insert a RMD (Compact Flash) in drive now.
.
```

**4**     Enter the correct drive letter of the RMD (see Figure 3).

**Figure 3**
**mkbootrmd.bat**

5     The boot sector files (bootrom.sys and nvram.sys) are successfully
copied making the CF card bootable (see Figure 4).

**Figure 4**
**Boot sector successfully installed**

```
. RMD format Successful ...
.
. Installing Boot sector ...
.
. Copying files . . .
.
. bootrom.sys copied OK.
.
. Check whether the following output shows
. "All the specified file(s) are contiguous"
.
.              * * * WARNING * * *
.IF THE FILES ARE NOT CONTIGUOUS,
.    PLEASE RECREATE THE RMD
.          * * * * * * * * *
Press any key to continue . . .
The type of the file system is FAT.
Volume CS1000BOOT created 4/12/2006 12:22 PM
Volume Serial Number is 389E-1E98
Windows is verifying files and folders...
File and folder verification is complete.
Windows has checked the file system and found no problems.

  512,180,224 bytes total disk space.
      352,256 bytes in 1 files.
  511,827,968 bytes available on disk.

        8,192 bytes in each allocation unit.
       62,522 total allocation units on disk.
       62,479 allocation units available on disk.
All specified files are contiguous.
.
```

————————————— **End of Procedure** —————————————

# Transferring the database from floppy disk to CF (customer database media converter tool)

> ### IMPORTANT!
>
> This upgrade requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to CF card, which is restored during the CS 1000 Release 6.0 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

**Procedure 4**
**Transferring the customer database from floppy disk to CF**

This procedure requires that the PC you are working from is equipped with a floppy disk drive and CF reader (or, if a CF reader is not available, a PCMCIA CF adaptor).

1   Insert the floppy disk containing the backed up customer database from Procedure 2 on .

2   Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.

3   Start the Database Media Converter utility. The first screen (Figure 5 on ) prompts you to select the correct drive letter for the floppy disk drive.

**Figure 5**
**Select the floppy disk drive**



**4**   The utility then prompts you to insert the floppy disk (diskette 1) and click OK (see Figure 6 on page 38).

**Figure 6**
**Insert diskette 1**
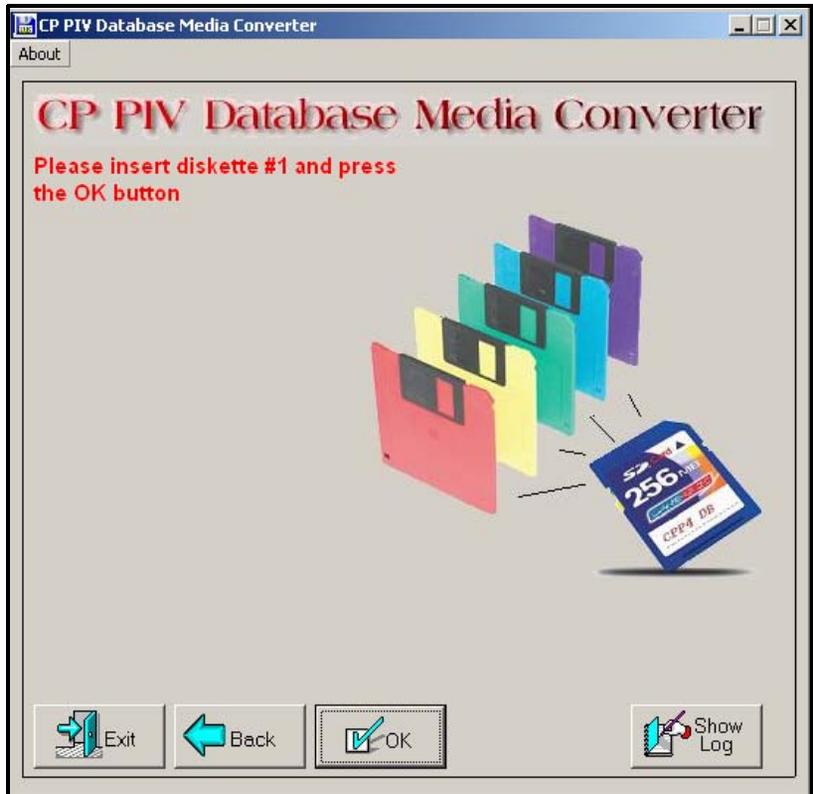


5    After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 7 on page 39).

**Figure 7**
**Select the CF drive**



**6**   At this point, 2 options are available:

   **a.**   If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 8 on page 40). Click yes to replace old database.

   **b.**   If the CF card is blank, the database is backed up to the CF card.

**Figure 8**
**Replace database on CF drive**
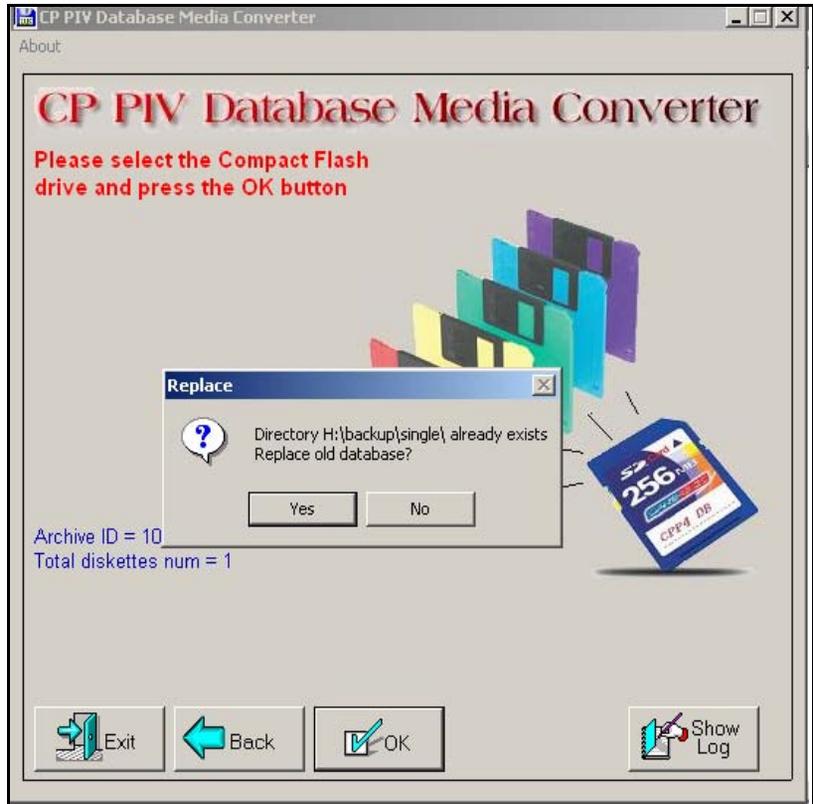


**7**   The utility completes the transfer to CF and prompts you to copy another
or EXIT.

**Figure 9**
**Copy another or exit**



- End of Procedure -

# Identifying two unique IP addresses

Each CP PIV system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

• Contact your System Administrator to identify two unique IP addresses before the upgrade.

# Performing the upgrade

## Contents

This chapter contains the following topics:

## Introduction

The target upgrade to CS1000M MG CP PIV FNF must meet the
requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA,
and 2000-047 rev1. Highlights include:

- PB requires NTRB53AA Clock Controller

- NT5D12AC, AD, and AG (1.54MB) support

- NT5D97AB, AD (2.0 MByte) support

- Both NTRC46 cables must be the same length

This upgrade takes a CS 1000M MG CP PII with FNF to a CS 1000M MG
CP PIV with FNF.

---

For information about upgrading and configuring the Signaling Server, see "Installing a Signaling Server" on .

# Reviewing upgrade requirements

## Check software received

The following software packages are required to upgrade a system to CS1000M MG CP PIV FNF:

- CORENET Core Network Module Package 299

- CPP_CNI CP Pentium Backplane for Intel Machine Package 368

Compact Flash Software Install Kit contains the following items:

- One CF (512 MByte) card containing:

  — Install Software files

  — CS 1000 Release 6.0 software

  — Dep. Lists (PEPs)

  — Key code File

- One blank CF card for database backup

- One Nortel CS 1000 Release 6.0 Documentation CD

| | **IMPORTANT!** |
|---|---|
| ⚠ | Systems and components delivered to customer sites may include preinstalled software. However, the preinstalled software versions are typically older and are included only for manufacturing and order management purposes. **Do not attempt to operate the system with the preinstalled software.** The latest software must be downloaded from the Nortel Software Downloads web site and installed as part of the upgrade process. |

## Check equipment received

This section describes the **minimum** equipment required for CP PIV with FNF. Additional equipment can also be installed during the upgrade. Verify that *all* equipment has been received.

Before the upgrade, check that the equipment on the order form is also on the packing slip. Check that all equipment has been received. If any items are missing, contact your supplier for replacements before you begin the upgrade.

> **CAUTION**
>
> **Service Interruption**
>
> DO NOT proceed with the upgrade if any of the required equipment is missing. All equipment must be received to complete the upgrade.

### Check vintage requirements for existing hardware

Make sure that existing hardware meets the following minimum vintage requirements for CP PIV:

- The NT4N65AC cCNI card must be minimum vintage of AC.

- The NT4N48 System Utility card must be minimum vintage AA.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.

- The NTRB53 Clock Controller cards must be minimum vintage AA.

- The existing QPC471 Clock Controller cards must be minimum vintage H or the QPC775 Clock Controller cards (all countries except USA) must be minimum vintage E.

- NT6D41CA (DC) Power Supply

- NT8D29BA (AC) Power Supply

- The QPC43 Peripheral Signaling cards must be minimum vintage R.

If any of the equipment listed does not meet the requirements, replace the equipment before you begin the upgrade.

| | **CAUTION** |
|---|---|
| | **Service Interruption** |
| | Equipment that does not meet the minimum vintage requirements will cause system malfunctions and loss of call processing. |

Table 4 describes the *minimum* equipment required to upgrade a system to CP PIV. Additional equipment for increased Network capacity is ordered separately.

**Table 4**
**Minimum requirements for Meridian 1 Option 81C CP PIV with FNF systems**

| Order number | Description | Quantity per system |
|---|---|---|
| NT4N39 | CP PIV Call Processor Card (512 MByte memory) | 2 |
| N0026096 | MMDU replacement faceplate | 2 |

### Check required tools

Table 5 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed with that procedure.

**Table 5**
**List of recommended tools (Part 1 of 2)**

— Digital Multimeter (DMM)

— Pliers, needle-nose

— Pliers, standard

— Screwdriver, 3/16" flat blade

— Screwdriver, #2 Phillips

— Wire cutters

**Table 5**
**List of recommended tools (Part 2 of 2)**

| |
|---|
| — Electrical insulation tape |
| — 5/16" socket wrench |
| — Electric drill and drill bits |
| — Hammer and sheet metal center punch |
| — 1/4" socket wrench |
| — 3/8" socket wrench |
| — 1/4" nut driver |
| — 7/16" socket driver |
| — 11/32 Deep Socket |
| — Flashlight |

## Verify CP PIV hardware

Figure 10 on shows the CP PIV processor card side view. Figure 11 on shows the CP PIV processor card front view.

**Figure 10**
**CP PIV call processor card (side)**
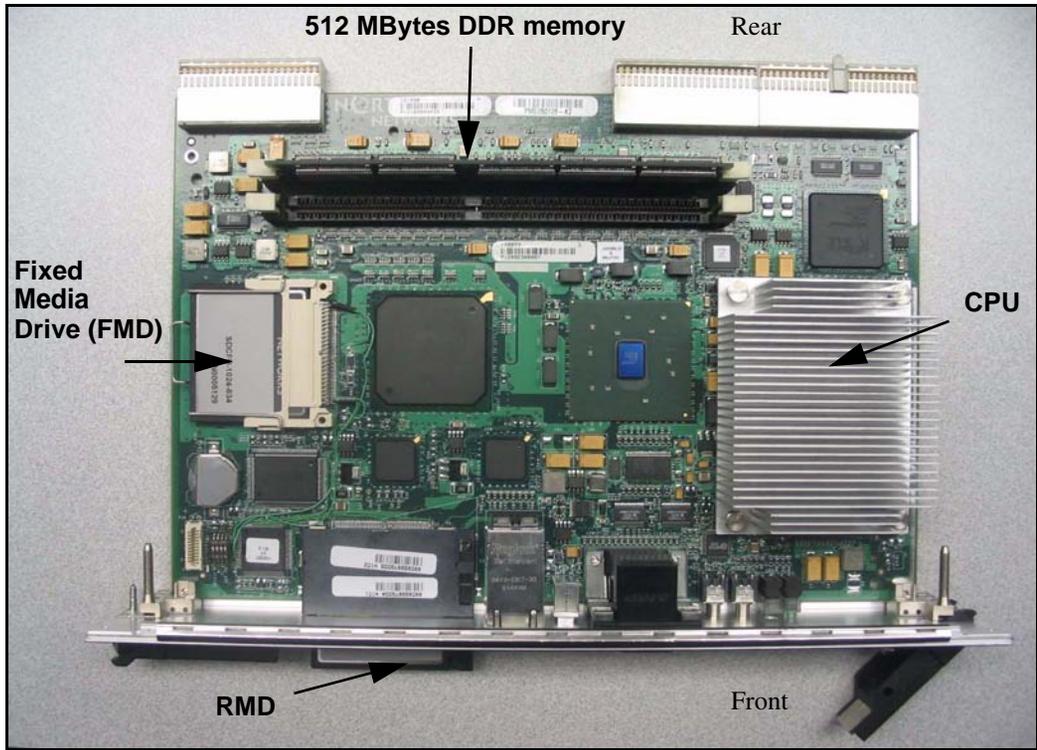
**Figure 11**
**CP PIV call processor card (front)**
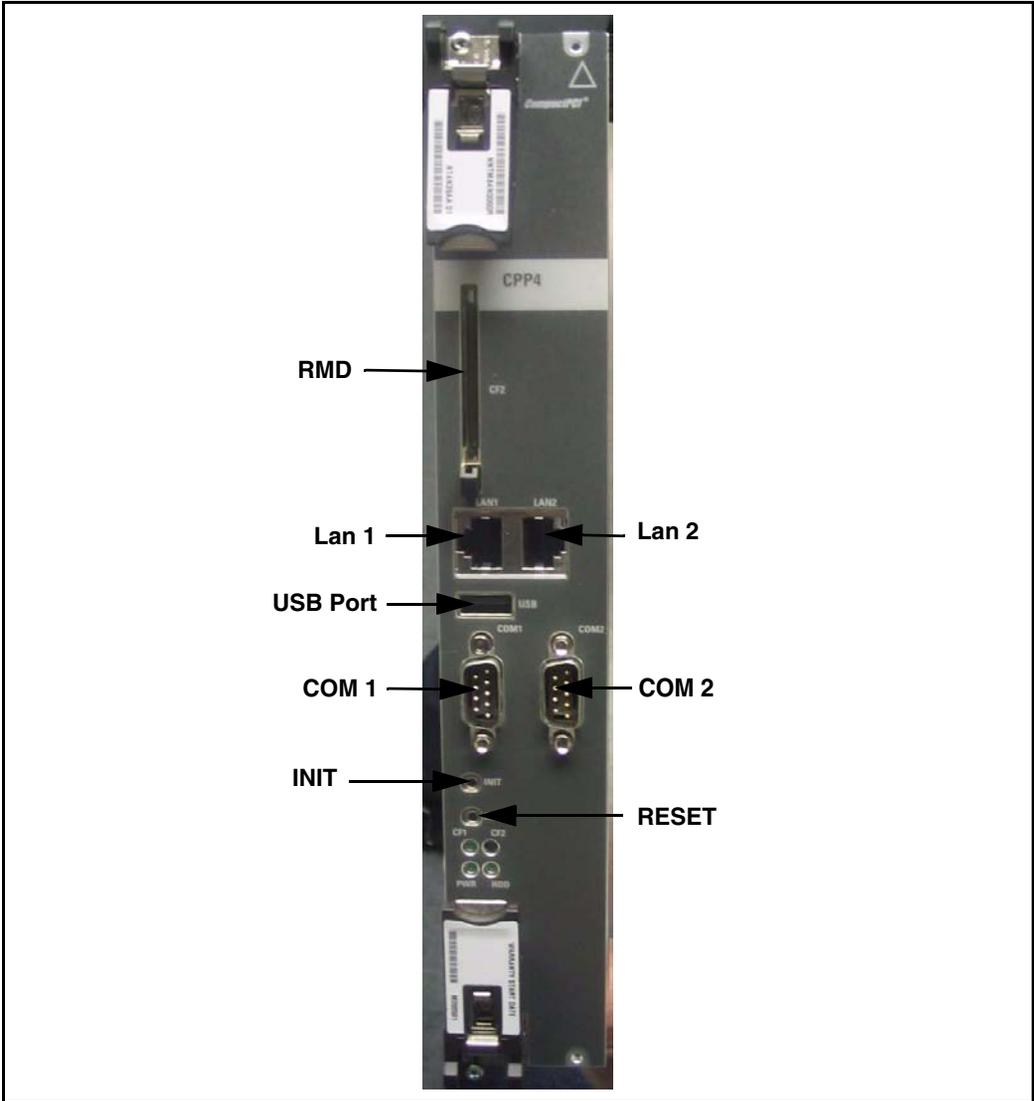
**Figure 12**
**CP PIV NT4N41 Core/Net Module**
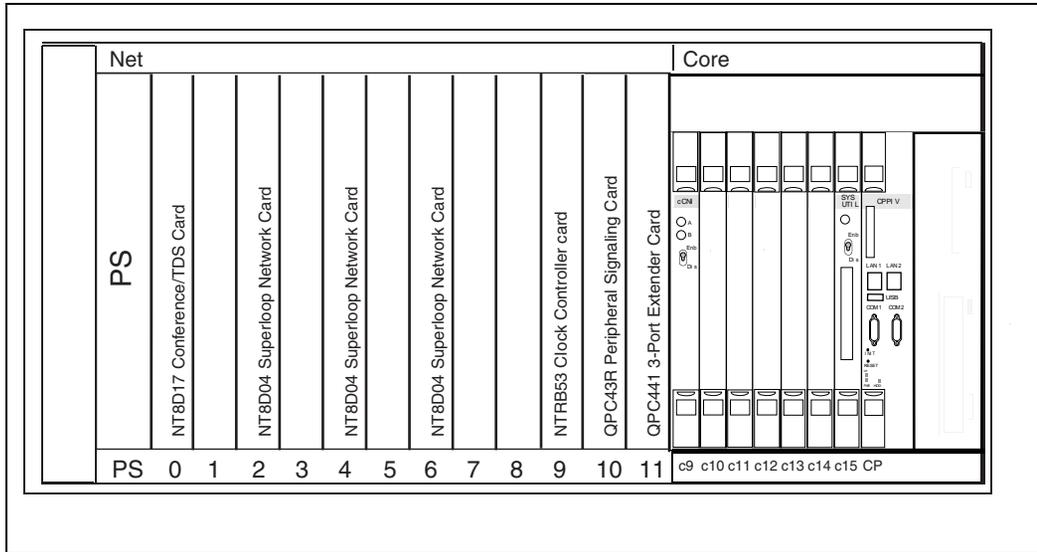


### Verifying CP PIV card location

The NT4N39 CP PIV card is located in the Call Processor slot (see Figure 12).

The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card.

**Figure 13**
**CP PIV Card location**



Core

cCNI

Sys Util    CPR V

Card status LEDs
(internal check)

A
B
Enb
Dis

Enb
Dis

Compact Flash (RMD)

LAN 1  LAN2

USB
COM1  COM2

Blank Faceplate

System Utility disable
switch

INIT
RESET
CP
II  II
FNB  HDD

LCD display

c9  c10 c11 c12 c13 c14 c15 CP
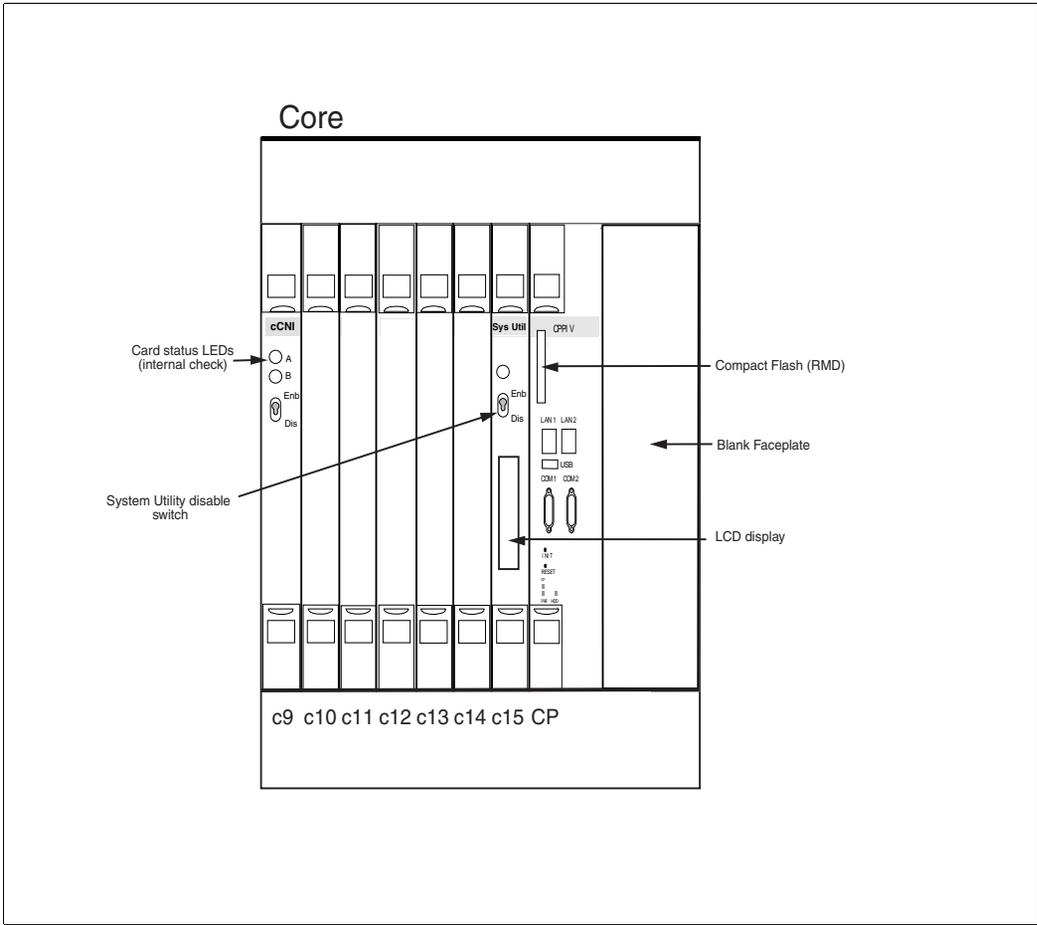
# Upgrading Core 1

### Procedure 5
### Checking that Core 0 is active

To upgrade Core 1, verify that Core 0 is the active side performing call processing:

**1**    Verify that Core 0 is active.

> **LD 135**        Load program
>
> **STAT CPU**    Obtain status of the CPUs

**2**    If Core 1 is active, make Core 0 active:

> **SCPU**        Switch to Core 0 (if necessary)
>
> **\*\*\*\***        Exit program

──────────    **End of Procedure**    ──────────

### Procedure 6
### Checking that Clock Controller 0 is active

**1**    Check the status of the Clock Controllers:

> **LD 60**        Load program
>
> **SSCK 0**        Obtain the status of Clock Controller 0
>
> **SSCK 1**        Obtain the status of Clock Controller 1

**2**    If Clock Controller 1 is active, switch to Clock Controller 0.

> **SWCK**        Switch to Clock Controller 0 (if necessary)
>
> **DIS CC 1**    Disable Clock Controller 1
>
> **\*\*\*\***        Exit the program

**3**    Faceplate disable Clock Controller 1.

──────────    **End of Procedure**    ──────────

**Procedure 7**
**Checking that Ring 0 is active**

**1**    Check the status of Ring 0.

| | |
|---|---|
| **LD 39** | Load program |
| **STAT RING 0** | Obtain the status of Ring 0 (Ring state should be HALF/HALF) |

**2**    Disable Ring auto recovery.

| | |
|---|---|
| **LD 39** | Load program |
| **ARCV OFF** | Set or reset auto-recovery operation for ring |

**3**    Swap to Ring 0.

| | |
|---|---|
| **LD 39** | Load program |
| **SWRG 0** | Switch call processing to ring 0 |

**4**    Disable Ring 1.

| | |
|---|---|
| **LD 39** | Load program |
| **DIS RING 1** | Disable all FIJI cards on side 1 |

**End of Procedure**

**Procedure 8**
**Splitting the Cores**

1   From Core/Net 0,enter the SPLIT command from LD 135.

    **LD 135**        Load program

    **SPLIT**         Split the Cores

    **\*\*\*\***          Exit program

2   Hardware disable all CNI cards in Core 1.

> The system is now in split mode, with call processing on Core 0 with Clock Controller 0 active and Ring 0 driving Full.

———————————— **End of Procedure** ————————————

## Removing Core 1 CP PII card and MMDU

**Procedure 9**
**Removing the Core 1 CP PII processor and MMDU**

1   Disconnect and label the LAN1 and LAN 2 cables from the Core 1 CP PII card faceplate. See Figure 14.

**Figure 14**
**CP PII faceplate connections**
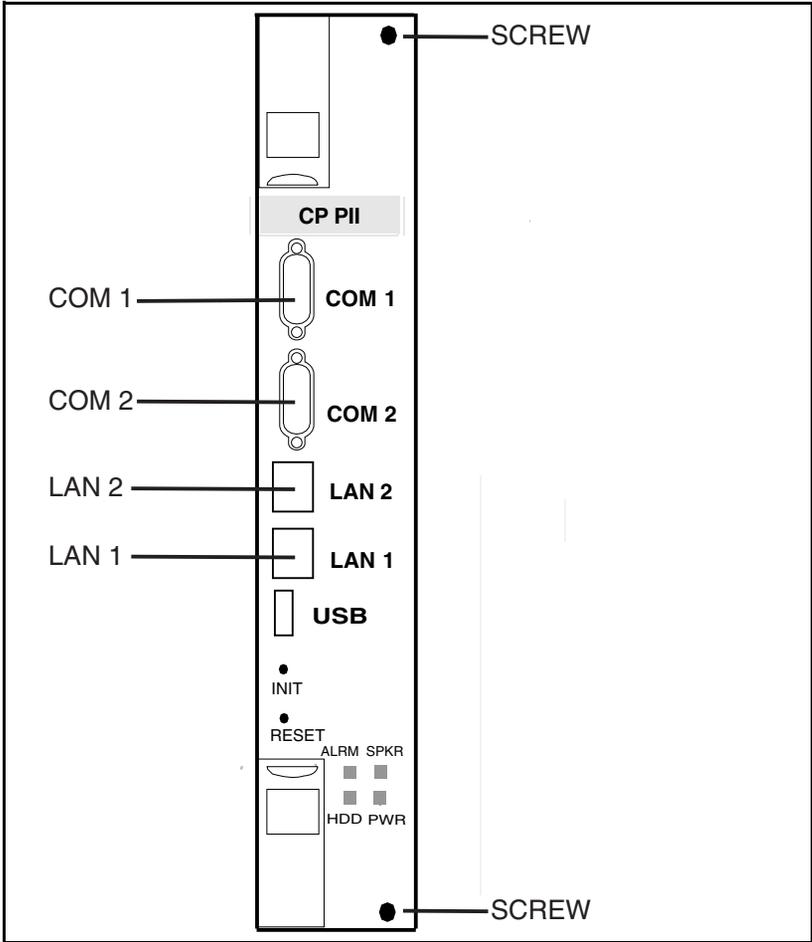
2  Disconnect and label the COM 1 and COM 2 cables from the Core 1 CP PII card faceplate. See Figure 14 on page 55.

3  Unscrew and unlatch the Core 1 CP PII card.

4  Pull the Core 1 CP PII card from its slot.

5  Remove the rear access plate on the left side of the Core 1 module. See Figure 15.

**Figure 15**
**NT4N46 Core/Net module**



Power connector
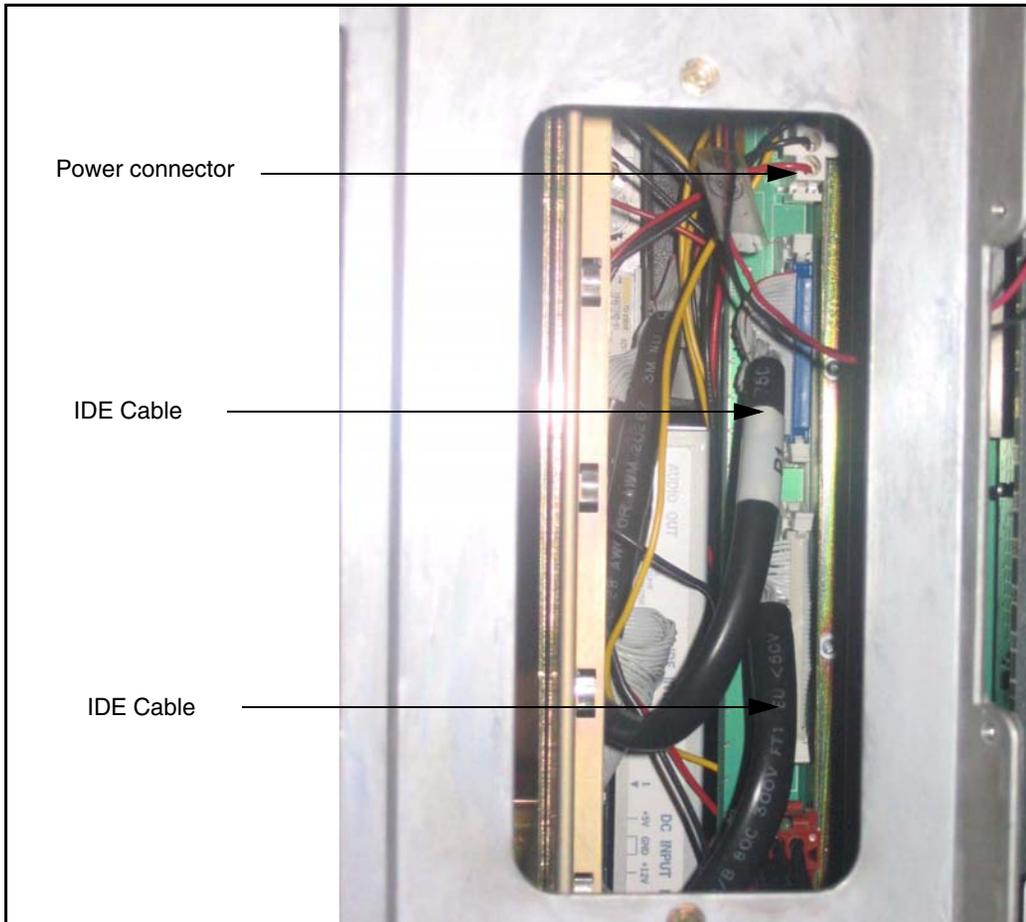
IDE Cable

IDE Cable

6 From the rear access point of the Core 1 shelf, remove the MMDU power cable from the backplane.

7 From the rear access point of the Core 1 shelf, remove the two IDE cables from the backplane. See Figure 15 on page 56.

8 Unscrew the MMDU from the front of Core 1.

9 Slowly pull the MMDU from its slot. Ensure the IDE and power cables do not catch on other equipment as you remove the MMDU.

10 Retain the MMDU (and database backup) in a safe and secure location until the successful completion of this upgrade.

> **IMPORTANT!**
>
> Database backup information, the MMDU, and original CP PII card should be preserved for a minimum of 5 days.

---- **End of Procedure** ----

## Installing Core 1 CP PIV card and blank faceplate

**Procedure 10**
**Installing the Core 1 CP PIV processor and blank faceplate**

1 Attach the blank faceplate to the empty MMDU slot using the supplied screws.

2 Insert the CP PIV card into the empty CP slot in Core 1. Seat the card and secure the latches and screws.

3 Attach the COM 1 and COM 2 cables to the CP PIV card faceplate. See Figure 16 on page 58.

4 Attach the LAN 2 cable to the CP PIV faceplate connector on Core 1. Do not connect the LAN 1 cable at this point.

**Figure 16**
**CP PIV faceplate connections**
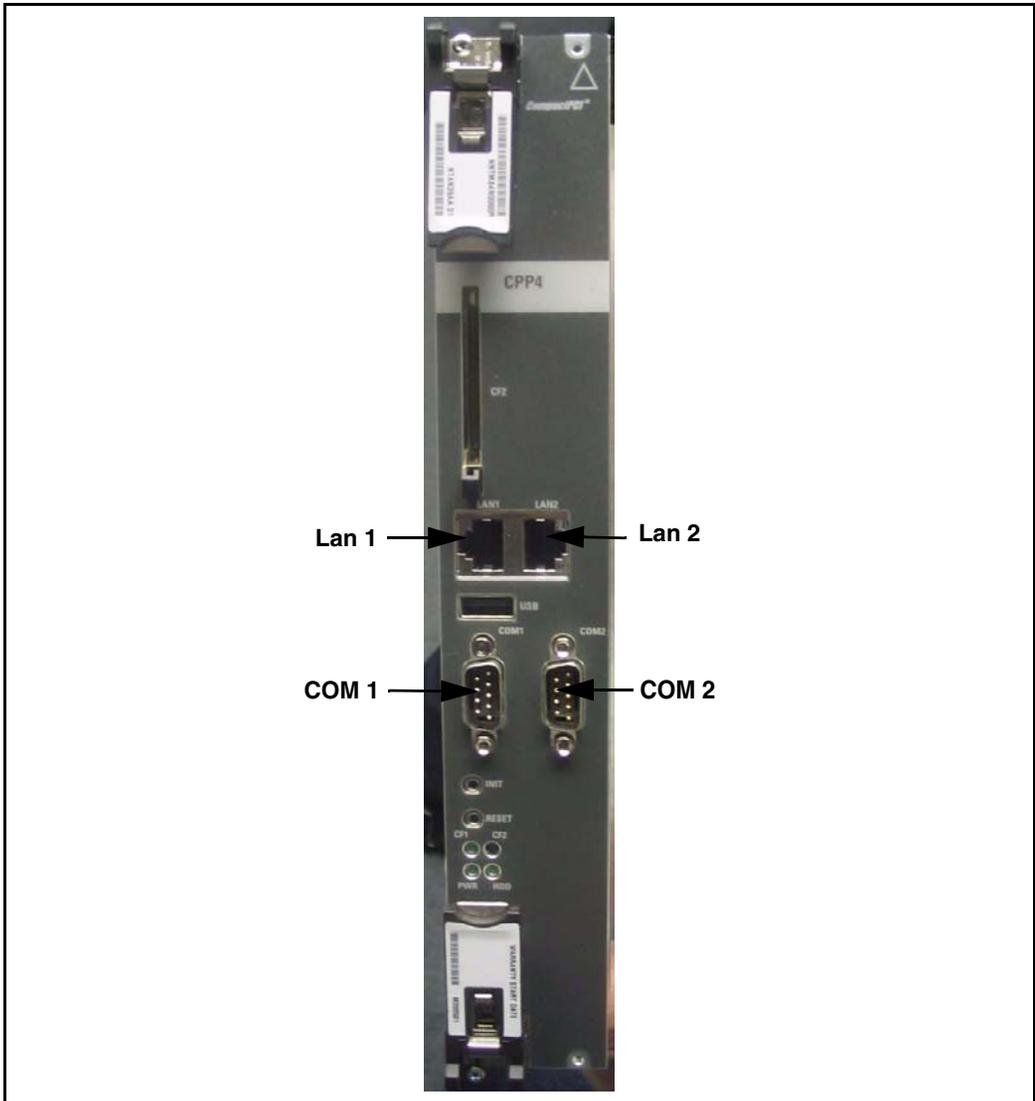
5    Do not attach the LAN 1 and LAN 2 cables to the CP PIV card faceplate at this point in the upgrade. These cables are attached once both Cores are upgraded.

———————— **End of Procedure** ————————

# CS 1000 Release 6.0 upgrade

### Upgrading the software

Procedure 11 outlines the steps involved in installing CS 1000 Release 6.0 for the CP PIV processor.

**Procedure 11**
**Upgrading the software**

1    Check that a terminal is now connected to COM 1port in CP 1. The settings for the terminal are:

   a.    Terminal type: VT100

   b.    9600 Baud

   c.    Data bits: 8

   d.    Parity: none

   e.    Stop bits: 1

   f.    Flow control: none

2    Insert the RMD into the CF card slot on Call Processor 1 (inactive).

3    Perform a KDIF in LD 143.

4    Press the manual RESET button the Call Processor 1 (inactive) card faceplate.

**5**    Call up the Software Installation Program during a SYSLOAD. During SYSLOAD, the following prompt appears:

```
Read boot parameters from:

  F: Faceplate compact flash

  H: Hard Drive

  0 [H]
```

Press F to boot from the compact flash (which contains the software).

For the CP PIV upgrade, the **F** must be in uppercase.

**6**    Enter <CR> at the Install Tool Menu.

*Note:* Blank CF prompts begin here.

```
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys

                    Selecting nvram file from 2
sources

Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive

 10 [F]

Press <CR> when ready

Reading boot parameters from /boot/nvram.sys

Press any key to stop auto-boot...

```

```
Communication Server 1000 Software/Database/BOOTROM RMD Install Tool
-----------------------------------------------------------------------

        #####
      ##########    #########
      #########``  `#########
      #########       ``  `##########
     ########`          ########``#####
     #######          #####``    `###            NORTEL
    #######    #####``        ####
    ####### #####`             ####    Communication Server 1000 Software
   `########`                  ####`
    #######`                  #####      Install Tool version 29
    `#######                 #####`
    #########              `###`          Copyright 1992 - 2007
   ##```#########           #
  ##    `###################
  `#     `####################
   #########################``
    ````````  ``` ``####``````

       Please press <CR> when ready ...


*****************************************************************
 WARNING:

 This software does not support TNs configured on PE/EPE
 shelves. Upgrading to this software release will permanently
 disable all TNs configured on PE/EPE and will not allow new
 TNs to be configured.

 Proceed with the upgrade? (Y/N| y

*****************************************************************
 WARNING:

 Upgrading from pre-Release 4.5 software to Release 4.5 or higher
 will result in the system PDT passwords being reset to default.

 Proceed with the upgrade? (Y/N| y
```

**7** The system then enters the `Main Menu` for keycode authorization.

```
                M A I N    M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu

        <t> - To Tools menu.

        <q> - Quit.

        Enter Choice> <u>
```

The system searches for available keycode files in the "keycode" directory
on the RMD. If no keycode file is found, the system displays the following
menu:

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool
=============================================
====================

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

        <CR> -> <a> - RMD is now in the drive.

        <q> - Quit.

        Enter choice>
```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=================================================
====================

You selected to quit. Please confirm.

Please enter:

        <CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.

        Enter choice>
```

If "y" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```
The following keycode files are available on the
removable media:

Name                      Size    Date       Time

--------------------     -------           -----

<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min

<2> - KCport60430m.kcd   1114 mon-d-year hr:min

<q> - Quit

Enter choice> 2
```

*Note:*  A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".

8   Select the keycode to be used on the system.The system validates the
    selected keycode and displays the software release and machine type
    authorized.

```
Validating keycode ...

Copying "/cf2/keycode/KCport60430m.kcd" to "/u/
keycode" -

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CP PIV processor on <system>).
```

*Note:* The software release displayed depends on the keycode file
content. The system requests keycode validation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

===============================================

Please confirm that this keycode matches the
System S/W on the RMD.

Please enter:

        <CR> -> <y> - Yes, the keycode matches.
Go on to Install Menu.

        <n> - No, the keycode does not match.
Try another keycode.

Enter choice>
```

**9**    If the keycode matches, enter <CR> to continue the installation. The
system displays the Install Menu. Select option "<a>.

*Note:*  Option A uses the existing db from the FMD. External database
backup is Option B.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool
=================================================
I N S T A L L    M E N U

        The Software Installation Tool will
install or upgrade Communication Server 1000
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

        Please enter:
<CR> -> <a> - To install Software, CP-BOOTROM.

        <b> - To install Software, Database,
CP-BOOTROM.

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

             For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> <a>
```

10 The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

===============================================
Please insert the Removable Media Device into the
drive on Core x.

Please enter:

        <CR> -> <a> - RMD is now in drive.
Continue with s/w checking.

        <q> - Quit.

Enter choice> <CR>
```

**11** If the RMD containing the software is already in the drive, select option
"<a> - RMD is now in drive. Continue with s/w checking." (or simply press
<CR>) to continue. If the RMD is not yet in the drive, insert it and then
press <CR>.

**12** The system displays the release of the software found on RMD under the
"swload" directory and requests confirmation to continue the installation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=================================================

The RMD contains System S/W version xxxx.

Please enter:

        <CR> -> <y> - Yes, this is the correct
version. Continue.

        <n> - No, this is not the correct version.
Try another RMD or a different keycode.

Enter choice> <CR>
```

*Note:* If the RMD contains the correct software release, select option
"<y> - Yes, this is the correct version. Continue." (or simply press <CR>)
to continue. If the software release is not correct and you want to replace
the RMD, insert the correct RMD in the drive and then press <CR>. If you
want to replace the keycode, select option "<n> - No, this is not the correct
version".

13  Choosing Yes for the Dependency Lists installation.

*Note:*  If Dependency Lists are not installed on media, the following prompts do not appear. Proceed to step 14 on .

Do you want to install Dependency Lists?

          Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists installation

          <n> - No, Continue without Dependency Lists installation

          Enter choice>

          The default choice is YES as shown in the prompt.

          If the choice is no, then the following prompt will appear for the confirmation:

          Are you sure?

          Please enter:

<CR> -> <n> - No, Go to the Dependency List menu

          <y> - Yes, Go to the next menu

          Enter choice>

          The default choice is NO which will return the user to deplist menu.

Enable Automatic Centralized Software Upgrade (CSU) Feature?

Please enter:

<CR> -> <y> - Yes

          <n> - No

          Enter choice>

**14** Select to enable/disable CSU option.

*Note:* if Sequential is selected **<1>**, upgrades to the MG 1000Es are performed across the LAN in a sequential manner. One MG 1000E is upgraded at a time. No other MG 1000E upgrades are initiated until the current MG 1000E completes its installation.

If Simultaneous is selected **<2>**, upgrades to the MG 1000Es are performed simultaneously across the LAN. Up to eight MG 1000Es are upgraded at the same time. If there are more than eight MG 1000Es, the upgrade to the next MG 1000E begins after the upgrade of one MG 1000E is complete. The following warning is presented to the installer:

```
 WARNING:
Call Processing is not guaranteed to operate on the call server
during simultaneous upgrades.
Do you wish to proceed? (y/n)
```

```
 Set Automatic Centralized Software Upgrade Mode to:

           Please enter:

<CR> -> <1> - Sequential

        <2> - Simultaneous

         Enter choice>

>Processing the install control file ...

>Installing release 0600x
```

**15** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
*************************************************
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

*************************************************
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

**16** The installation summary screen appears. Verify the parameters and enter <CR> when ready.

**17** Enter <CR> to confirm and continue upgrade.

*Note:* After entering yes below, the system copies the software from RMD to FMD (the files copied are listed). This file copy takes between 5 and 10 minutes to complete.

```
 Please enter:

<CR> -> <y> - Yes, start upgrade.

       <n> - No, stop upgrade. Return to the Main
Menu.


        Enter choice>
>Checking system configuration

You selected to upgrade Software release: XXXX to
release: xxxx. This will erase all old system
files.

This will  create  all  necessary  directories and
pre-allocate files on the hard disk.

You  may continue  with software  upgrade or quit
now and leave your software unchanged.

Please enter:

       <CR> -> <a> - Continue with upgrade.

       <q> - Quit.

       Enter choice>

```

**18**  Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

===============================================

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.


Please press <CR> when ready ...
```

**19**  Press "Enter" after checking the Installation summary.

**20**  Upon returning to the main install menu, enter **q** to quit.

```
              I N S T A L L    M E N U

        The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

        Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

        <b> - To install Software, Database,
CP-BOOTROM.

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

             For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> q
```

**21** The system then prompts you to confirm and reboot. Enter <CR> to quit.
Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

    Please enter:
<CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.


        Enter choice> <CR>
You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.




        ------------------------------

        DO NOT REBOOT USING RESET BUTTON!!!


        ------------------------------


        Please enter:
<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

        Enter Choice> <CR>
>Removing temporary file "/u/disk3521.sys"

>Removing temporary file "/u/disk3621.sys"

>Rebooting system ...
```

At this point the system reloads and initializes.

———————————  **End of Procedure**  ———————————

# Verifying the upgraded database

**Procedure 12**
**Verifying the upgraded database**

**1**  Print ISSP (system software issue and patches)

| | |
|---|---|
| **LD 22** | Load program |
| **REQ** | ISSP |
| **\*\*\*\*** | Exit program |

**2**  Print the system configuration record in LD 22 and compare the output with the preupgraded configuration record.

| | |
|---|---|
| **LD 22** | Load program |
| **REQ** | PRT |
| **TYPE** | CFN |
| **\*\*\*\*** | Exit program |

**3**  Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with preupgrade SLT output.

| | |
|---|---|
| **LD 22** | Load program |
| **REQ** | SLT |
| **\*\*\*\*** | Exit program |

**4**    Print the customer data block(s) in LD 21.

**LD 21**          Load program

**REQ**            PRT

**TYPE**           CDB

**CUST**           xx

**\*\*\*\***       Exit program

> ✔ Core 0 is now active, clock 0 is active, CNI is disabled in Core 1. The system is in split mode.

———— **End of Procedure** ————

## Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in "Printing site data" on . If there is a difference between the Source and Target peripheral software version:

•    A forced download occurs during initialization when coming out of parallel reload.

•    System initialization takes longer.

•    The system drops established calls on IPE.

Load LD 22 and print Target peripheral software version.

**LD 22**

**REQ**          PRT

| | |
|---|---|
| **TYPE** | PSWV |
| **\*\*\*\*** | Exit program |

# Reconfigure I/O ports and call registers

**Procedure 13**
**Reconfiguring I/O ports and call registers**

1   Evaluate the number of call registers and 500 telephone buffers that are
    configured for the system (suggested minimum values are 20,000 and
    1000 respectively). See *Communication Server 1000M and Meridian 1:
    Large System Planning and Engineering* (NN43021-220). If changes are
    required, reconfigure the values in LD 17:

| | |
|---|---|
| **LD 17** | Load program |
| **CHG** | |
| **CFN** | |
| **PARM YES** | |
| **500B 1000** | Use 1000 as a minimum value |
| **NCR 20000** | Use 20000 as a minimum value |
| **\*\*\*\*** | Exit program |

─────── **End of Procedure** ───────

At this point, all applications must be shut down.

**Procedure 14**
**Rebooting Core 1**

> **CAUTION**
>
> **Service Interruption**
>
> The INI may take up to 15 minutes to complete.

> **CAUTION**
>
> **Service Interruption**
>
> Call processing is interrupted for approximately 60 minutes while the procedures are completed.

At this stage, Core 0 is still the active call processor with Clock Controller 0 active. The following procedure will transfer call processing from Core 0 to Core 1, switching Clock Controller from 0 to 1.

**1**    In Core/Net 0 only, unseat the Core Processor card.

**2**    Press the 'INIT' button on the CP PIV card faceplate of Core 1 to initialize the system.

**3**    Wait for "DONE" and then "INI" messages to display before you continue..

> **CAUTION**
>
> **Service Interruption**
>
> Allow the system to recover from all downloads after the INI completes.

──────────  **End of Procedure**  ──────────

> Core 1 is now active with ring 1 drives full. Clock Controller 1 is active. Call processing should be active on Core/Net 1.

## Testing Core/Net 1

**Procedure 15**
**Testing Core/Net 1**

**1** Check dial-tone.

**2** Stat D-channels:

    **LD 96**

    **STAT DCH**      Stat all D-channels

    **\*\*\*\***          Exit program

**3** Stat all T1 interfaces:

    **LD 60**

    **STAT**         Stat all DTI and PRI

    **\*\*\*\***          Exit program

**4** Stat network cards:

    **LD 32**

    **STAT x**       x = loop number

    **\*\*\*\***          Exit program

**5** Print status of all controllers:

    **LD 97**

    **REQ**         PRT

    **TYPE**        XPE (returns status of all controller cards)

    **\*\*\*\***          Exit program

**6** Make internal, external and network calls.

**7** Check attendant console activity.

**8**    Check DID trunks.

Call processing should be active on Core/Net 1.

————————    **End of Procedure**    ————————

# Upgrading Core 0

### Removing Core 0 CP PII card and MMDU

**Procedure 16**
**Removing the Core 0 CP PII processor and MMDU**

**1**    Disconnect and label the LAN1 and LAN 2 cables from the Core 0 CP PII card faceplate. See Figure 17 on .

**2**    Disconnect and label the COM 1 and COM 2 cables from the Core 0 CP PII card faceplate. See Figure 17 on .

**3**    Unscrew and unlatch the Core 0 CP PII card. See Figure 17 on .

**4**    Pull the Core 0 CP PII card from its slot.

**5**    Remove the rear access plate on the left side of the Core 0 module. See Figure 18 on .

**Figure 17**
**CP PII faceplate connections**
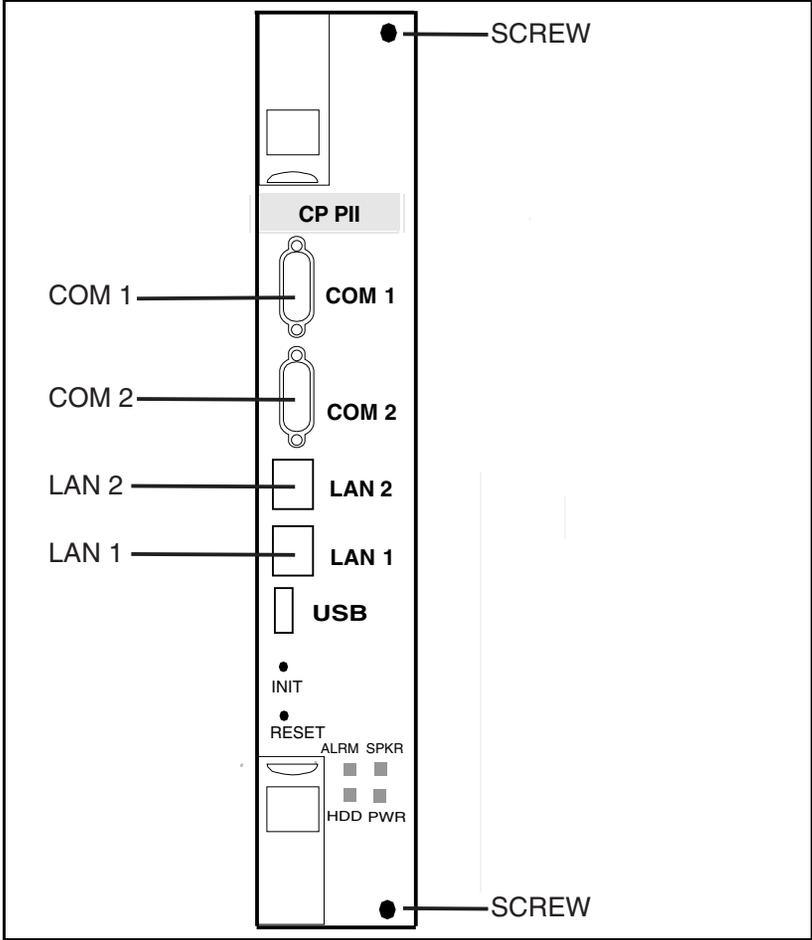
**Figure 18**
**NT4N46 Core/Net module**
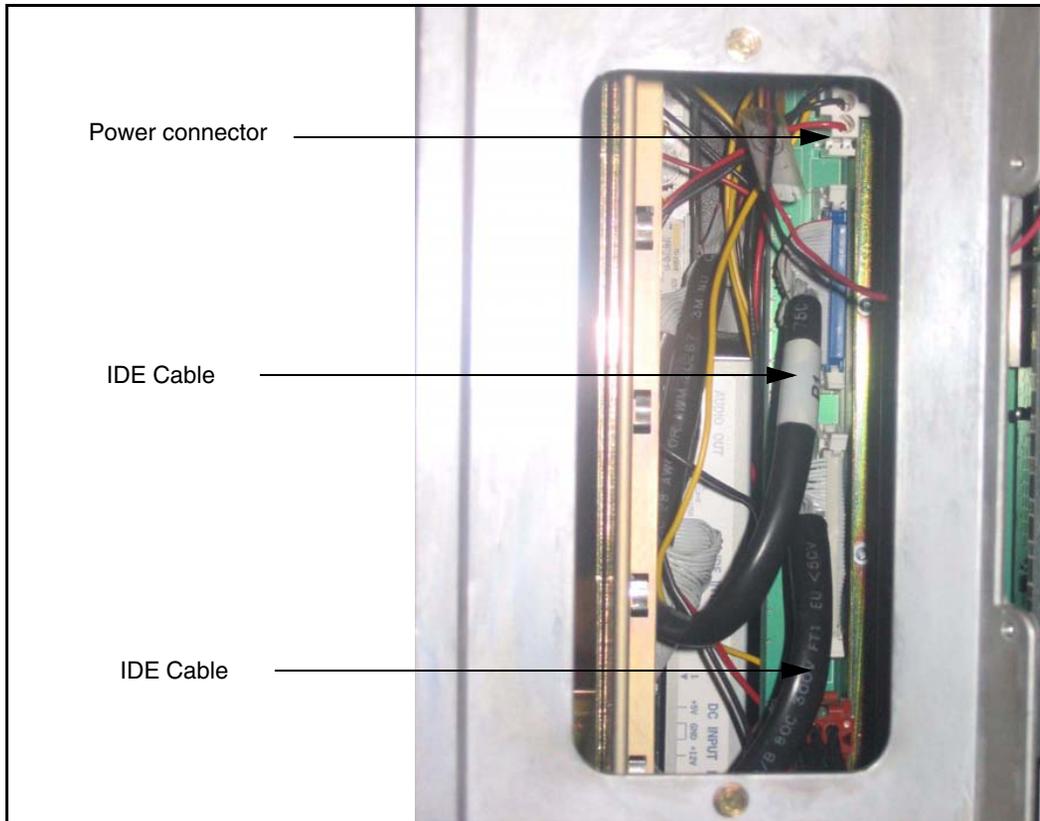


**6**   From the rear access point of the Core 0 shelf, remove the MMDU power cable from the backplane.

**7**   From the rear access point of the Core 0 shelf, remove the two IDE cables from the backplane.

**8**   Unscrew the MMDU from the front of Core 0.

**9**   Slowly pull the MMDU from its slot. Ensure the IDE and power cables do not catch on other equipment as you remove the MMDU.

**10** Retain the MMDU (and database backup) in a safe and secure location until the successful completion of this upgrade.

> **IMPORTANT!**
>
> Database backup information and MMDU should be preserved for a minimum of 5 days.

──────── **End of Procedure** ────────

## Installing Core 0 CP PIV card and blank faceplate

**Procedure 17**
**Installing the Core 0 CP PIV processor and blank faceplate**

**1** Attach the blank faceplate to the empty MMDU slot using the supplied screws.

**2** Insert the CP PIV card into the empty CP slot in Core 0. Seat the card and secure the latches and screws.

**3** Attach the COM 1 and COM 2 cables to the CP PIV card faceplate. See Figure 19 on .

**Figure 19**
**CP PIV faceplate connections**
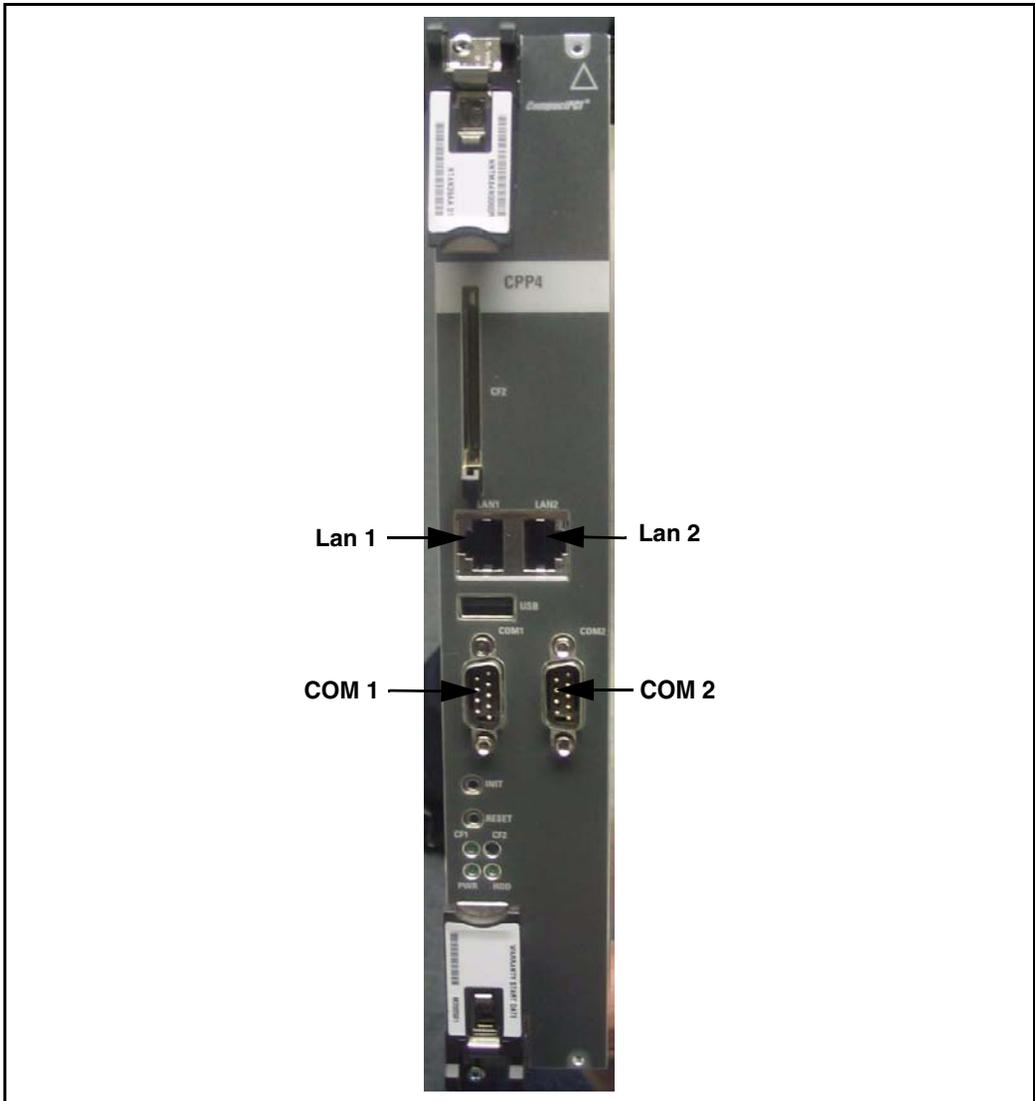
4   Attach the LAN 1 and LAN 2 cables to the CP PIV card faceplate at this point in the upgrade.

─────────── **End of Procedure** ───────────

# Power up Core 0

**Procedure 18**
**Preparing for power up**

1   Confirm that a terminal is connected to the J25 I/O panel connector on Core/Net 0.

   *Note:* A maintenance terminal is required to access the Core/Net modules during the upgrade.

2   Connect a terminal to the J25 port on the I/0 panel in Core 0.

3   Check the terminal settings as follows:

   **a.**   9600 Baud

   **b.**   8 data

   **c.**   parity none

   **d.**   1 stop bit

   **e.**   full duplex

   **f.**   XOFF

   *Note:* If only one terminal is used for both Cores, the terminal will have to be switched from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

─────────── **End of Procedure** ───────────

## CS 1000 Release 6.0 upgrade

### Upgrading the software

Procedure 19 outlines the steps involved in installing CS 1000 Release 6.0 for the CP PIV processor.

**Procedure 19**
**Upgrading the software**

1   Check that a terminal is now connected to COM 1port in CP 1. The settings for the terminal are:

   a.   Terminal type: VT100

   b.   9600 Baud

   c.   Data bits: 8

   d.   Parity: none

   e.   Stop bits: 1

   f.   Flow control: none

2   Insert the RMD into the CF card slot on Call Processor 1 (inactive).

3   Perform a KDIF in LD 143.

4   Press the manual RESET button the Call Processor 1 (inactive) card faceplate.

5   Call up the Software Installation Program during a SYSLOAD. During SYSLOAD, the following prompt appears:

```
Read boot parameters from:

  F: Faceplate compact flash

  H: Hard Drive

  0 [H]
```

   Press F to boot from the compact flash (which contains the software).

---

For the CP PIV upgrade, the **F** must be in uppercase.

---

**6** Enter <CR> at the Install Tool Menu.

*Note:* Blank CF prompts begin here.

```
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys

                    Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive

 10 [F]

Press <CR> when ready

Reading boot parameters from /boot/nvram.sys

Press any key to stop auto-boot...
```

```
Communication Server 1000 Software/Database/BOOTROM RMD Install Tool
===================================================================

         #####
       #########   ########
      ########``  `#############
     #########      `#############
     #######         ######``##
     #######       ######''    `###        NORTEL
    #######  #####``         ####
    ####### #####`           ####  Communication Server 1000 Software
    `########`                ####`
     #######`                #####    Install Tool version 29
     `#######               #####`
     #########`            `###`      Copyright 1992 - 2007
     ##``#########          #
    ##   ######################
    `#    `####################
     ########################``
       ````````  ```````####````

        Please press <CR> when ready ...


********************************************************************
 WARNING:

 This software does not support TNs configured on PE/EPE
 shelves. Upgrading to this software release will permanently
 disable all TNs configured on PE/EPE and will not allow new
 TNs to be configured.

 Proceed with the upgrade? (Y/N| y

*******************************************************************
 WARNING:

 Upgrading from pre-Release 4.5 software to Release 4.5 or higher
 will result in the system PDT passwords being reset to default.

 Proceed with the upgrade? (Y/N| y
```

**7** The system then enters the `Main Menu` for keycode authorization.

```
         M A I N    M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

<CR> -> <u> - To Install menu

        <t> - To Tools menu.

        <q> - Quit.

        Enter Choice> <u>
```

The system searches for available keycode files in the "keycode" directory on the RMD. If no keycode file is found, the system displays the following menu:

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool
================================================
===================

No keycode files are available on the removable
media.

Please replace the RMD containing the keycode
file(s).

Please enter:

        <CR> -> <a> - RMD is now in the drive.

        <q> - Quit.

        Enter choice>
```

At this point, either replace the RMD or quit the installation. If you select option "<q> - Quit.", the system requires confirmation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

====================================================
====================

You selected to quit. Please confirm.

Please enter:

        <CR> -> <y> - Yes, quit.

        <n> - No, DON'T quit.

        Enter choice>
```

If "y" (quit) is selected, the system prints "INST0127 Keycode file is corrupted. Check Keycode file." and returns to the installation main menu.

After accessing the RMD containing the valid keycode(s), press <CR>. The system displays the keycode file(s) available as in the following example:

```
The following keycode files are available on the
removable media:

Name                      Size    Date      Time

------------------    -------          -----

<CR> -> <1> -keycode.kcd 1114 mon-d-year hr:min

<2> - KCport60430m.kcd   1114 mon-d-year hr:min

<q> - Quit

Enter choice> 2
```

***Note:*** A maximum of 20 keycode files can be stored under the "keycode" directory on the RMD. The keycode files must have the same extension ".kcd".

**8**    Select the keycode to be used on the system.The system validates the selected keycode and displays the software release and machine type authorized.

```
Validating keycode ...

Copying "/cf2/keycode/KCport60430m.kcd" to "/u/
keycode" -

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CP PIV processor on <system>).
```

*Note:*  The software release displayed depends on the keycode file content. The system requests keycode validation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

================================================

Please confirm that this keycode matches the
System S/W on the RMD.

Please enter:

        <CR> -> <y> - Yes, the keycode matches.
Go on to Install Menu.

        <n> - No, the keycode does not match.
Try another keycode.

Enter choice>
```

**9**   If the keycode matches, enter <CR> to continue the installation. The system displays the Install Menu. Select option "<a>.

*Note:* Option A uses the existing db from the FMD. External database backup is Option B.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool
==============================================
I N S T A L L    M E N U

        The Software Installation Tool will
install or upgrade Communication Server 1000
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

        Please enter:
<CR> -> <a> - To install Software, CP-BOOTROM.

        <b> - To install Software, Database,
CP-BOOTROM.

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

             For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> <a>
```

**10** The system requires the insertion of the RMD containing the software to be installed.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

================================================
Please insert the Removable Media Device into the
drive on Core x.

Please enter:

        <CR> -> <a> - RMD is now in drive.
Continue with s/w checking.

        <q> - Quit.

Enter choice> <CR>
```

**11**  If the RMD containing the software is already in the drive, select option
"<a> - RMD is now in drive. Continue with s/w checking." (or simply press
<CR>) to continue. If the RMD is not yet in the drive, insert it and then
press <CR>.

**12**  The system displays the release of the software found on RMD under the
"swload" directory and requests confirmation to continue the installation.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

===============================================

The RMD contains System S/W version xxxx.

Please enter:

        <CR> -> <y> - Yes, this is the correct
version. Continue.

        <n> - No, this is not the correct version.
Try another RMD or a different keycode.

Enter choice> <CR>
```

*Note:*  If the RMD contains the correct software release, select option
"<y> - Yes, this is the correct version. Continue." (or simply press <CR>)
to continue. If the software release is not correct and you want to replace
the RMD, insert the correct RMD in the drive and then press <CR>. If you
want to replace the keycode, select option "<n> - No, this is not the correct
version".

**13** Choosing Yes for the Dependency Lists installation.

*Note:* If Dependency Lists are not installed on media, the following prompts do not appear. Proceed to the next step.

```
Do you want to install Dependency Lists?

         Please enter:

<CR> -> <y> - Yes, Do the Dependency Lists installation

         <n> - No, Continue without Dependency Lists installation

         Enter choice>

         The default choice is YES as shown in the prompt.

         If the choice is no, then the following prompt will appear
for the confirmation:

         Are you sure?

         Please enter:

<CR> -> <n> - No, Go to the Dependency List menu

         <y> - Yes, Go to the next menu

         Enter choice>

         The default choice is NO which will return the user to
         deplist menu.

Enable Automatic Centralized Software Upgrade (CSU) Feature?

Please enter:

<CR> -> <y> - Yes

         <n> - No

         Enter choice>
```

**14** Select to enable/disable CSU option.

*Note:* if Sequential is selected **<1>**, upgrades to the MG 1000Es are performed across the LAN in a sequential manner. One MG 1000E is upgraded at a time. No other MG 1000E upgrades are initiated until the current MG 1000E completes its installation.

If Simultaneous is selected **<2>**, upgrades to the MG 1000Es are performed simultaneously across the LAN. Up to eight MG 1000Es are upgraded at the same time. If there are more than eight MG 1000Es, the upgrade to the next MG 1000E begins after the upgrade of one MG 1000E is complete. The following warning is presented to the installer:

```
 WARNING:
Call Processing is not guaranteed to operate on the call server
during simultaneous upgrades.
Do you wish to proceed? (y/n)
```

```
 Set Automatic Centralized Software Upgrade Mode to:

          Please enter:

<CR> -> <1> - Sequential

        <2> - Simultaneous

         Enter choice>

>Processing the install control file ...

>Installing release 0600x
```

**15** The PSDL files menu appears. Enter the appropriate choice for the site's geographic location.

```
**************************************************
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
M3900 series sets.

**************************************************
Select ONE of the SEVEN PSDL files:

1. Global 10 Languages
2. Western Europe 10 Languages
3. Eastern Europe 10 Languages
4. North America 6 Languages
5. Spare Group A
6. Spare Group B
7. Packaged Languages
[Q]uit, <CR> - default

By default option 1 will be selected.
Enter your choice ->x

>Copying new PSDL ...
```

**16** The installation summary screen appears. Verify the parameters and enter <CR> when ready.

**17**  Enter <CR> to confirm and continue upgrade.

*Note:* After entering yes below, the system copies the software from RMD to FMD (the files copied are listed). This file copy takes between 5 and 10 minutes to complete.

```
 Please enter:

<CR> -> <y> - Yes, start upgrade.

        <n> - No, stop upgrade. Return to the Main
Menu.


         Enter choice>

>Checking system configuration

You selected to upgrade Software release: XXXX to
release: xxxx. This will erase all old system
files.

This will  create  all  necessary  directories and
pre-allocate files on the hard disk.

You  may continue  with software  upgrade or quit
now and leave your software unchanged.

Please enter:

        <CR> -> <a> - Continue with upgrade.

        <q> - Quit.

        Enter choice>

```

**18**  Successful installation confirmation appears, enter <CR> to continue.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool

=================================================

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.


Please press <CR> when ready ...
```

**19**  Press "Enter" after checking the Installation summary.

**20**  Upon returning to the main install menu, enter **q** to quit.

```
          I N S T A L L    M E N U

        The Software Installation Tool will
install or upgrade Succession Enterprise System
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

        Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.

        <b> - To install Software, Database,
CP-BOOTROM.

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

             For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> q
```

**21** The system then prompts you to confirm and reboot. Enter <CR> to quit.
Enter <CR> again to reboot.

```
You selected to quit. Please confirm.

     Please enter:

<CR> -> <y> - Yes, quit.

         <n> - No, DON'T quit.


         Enter choice> <CR>

You selected to quit the Install Tool.

You may reboot the system or return to the Main
Menu.




         -----------------------------

         DO NOT REBOOT USING RESET BUTTON!!!


         -----------------------------


         Please enter:

<CR> -> <a> - Reboot the system.

         <m> - Return to the Main menu.

         Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"

>Removing temporary file "/u/disk3621.sys"

>Rebooting system ...
```

At this point the system reloads and initializes.

————————— **End of Procedure** —————————

## Verifying the upgraded database

**Procedure 20**
**Verifying the upgraded database**

1   Print ISSP (system software issue and patches)

    **LD 22**           Load program

    **REQ**             ISSP

    **\*\*\*\***           Exit program

> ✔ Core 1 is now active, clock 1 is active, FIJI Rings are half /half, CNI is disabled in Core 0. The system is in split mode.

————————— **End of Procedure** —————————

# Making the system redundant

At this point, Core/Net 0 is ready to be synchronized with Core/Net 1.

**Procedure 21**
**Making the system redundant**

1   The LAN 1 and LAN 2 cables should be attached to the CP PIV faceplate connectors on Core 0 and Core 1.

2   Enter LD 135 and issue the JOIN command. The high speed pipe (HSP) status is now up. This begins the synchronization of the Call Servers.

    **LD 135**         Load program

    **JOIN**           Join the 2 CPUs together to become redundant

3     Once the synchronization of memories and drives is complete, STAT the
      CPU and verify that the CPUs are in a true redundant state.

**LD 135**

**STAT CPU**          Obtain status of CPU and memory

**\*\*\*\***          Exit the program

```
.stat cpu


cp 0 16 PASS -- STDBY


TRUE REDUNDANT

DISK STATE = REDUNDANT

HEALTH  = 20

VERSION = Mar  3 2005, 16:26:40

 Side = 0, DRAM SIZE = 512 MBytes


cp 1 16 PASS -- ENBL


TRUE REDUNDANT

DISK STATE = REDUNDANT

HEALTH = 20

VERSION = Mar  3 2005, 16:26:40

 Side = 1, DRAM SIZE = 512 MBytes
```

**4**   Tier 1 and Tier 2 health of both Cores must be identical in order to successfully switch service from Core 1 to Core 0.
CPUs.

### LD 135

**STAT HEALTH**     Obtain status of CPU and memory

**\*\*\*\***                 Exit the program

```
.stat health

Local (Side 0, Active, Redundant):

Components without TIER 1 Health contribution:

================================================

     disp 0 15 1:In Service

     sio2 0 15 1:In Service

        cp 0 16:In Service

          ipb 0:In Service

TIER 1 Health Count Breakdown:

===================================

     sio8 0 16 1: 0002

     sio8 0 16 2: 0002

       sutl 0 15: 0002

       strn 0 15: 0002

     xsmp 0 15 1: 0002

     cmdu 0 16 1: 0008

      eth 0 16 0: 0002

Local TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:

=======================================

ELAN 16 IP : 47.11.138.150 Health = 2

ELAN 17 IP : 47.11.138.153 Health = 2


Local AML over ELAN Total Health:4

Local Total IPL Health = 6


IPL connection history:3 3 3 3 3 3 3 3 3 3 3 3 3 3
3 3 3 3 3 3


Local TIER 2 Health Total:10


Remote (Side 1, Inactive, Redundant):

Components without TIER 1 Health contribution:

     disp 1 15 1:In Service

     sio2 1 15 1:In Service

        cp 1 16:In Service

          ipb 1:In Service

TIER 1 Health Count Breakdown:

     sio8 1 16 1: 0002
     sio8 1 16 2: 0002
      sutl 1 15: 0002
      strn 1 15: 0002
      xsmp 1 15 1: 0002
      cmdu 1 16 1: 0008
       eth 1 16 0: 0002

Remote TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:

=====================================

ELAN 16 IP : 47.11.138.150 Health = 2

ELAN 17 IP : 47.11.138.153 Health = 2


Remote AML over ELAN Total Health:4

Remote Total IPL health = 6


Remote TIER 2 Health Total:10
```

The system is now operating in full redundant mode with Core/Net 1 active.

**End of Procedure**

## Completing the CP PIV upgrade

### Testing the Cores

At this point in the upgrade, Core/Net 0 is tested from active Core/Net 1. Upon successful completion of these tests, call processing is switched and the same tests are performed on Core/Net 1 from active Core/Net 0.

From Core/Net 1, perform these tests:

### *LD 137*

The CMDU/MMDU commands are not applicable to CP PIV. Instead, the following commands are used in LD 137.

- STAT FMD
  display text: **Status of Fixed Media Device (FMD)**
  command parameter: none

- `STAT RMD`
  display text: **Status of Removable Media Device(RMD)**
  command parameter: none

**Procedure 22**
**Testing Core/Net 0**

**From active Core/Net 1**, **perform the following tests on Core/Net 0**:

**1**   Perform a redundancy sanity test:

     **LD 135**

     **STAT CPU**     Obtain status of CPU and memory

     **TEST CPU**     Test the CPU

**2**   Check the LCD states

    **a.**   Perform a visual check of the LCDs.

    **b.**   Test and LCDs:

     **LD 135**

     **DSPL ALL**

    **c.**   Check that the LCD display matches the software check.

**3**   Test the System Utility card and the cCNI cards:

     **LD 135**       Load program

     **STAT SUTL**     Obtain the status of the System Utility card

     **TEST SUTL**     Test the System Utility card

     **STAT CNI c s**   Obtain status of cCNI cards (core, slot)

     **TEST CNI c s**   Test cCNI (core, slot)

4    Test system redundancy and media devices:

      **LD 137**             Load program

      **TEST RDUN**     Test redundancy

      **DATA RDUN**     Test database integrity

      **STAT FMD**      Status of Fixed Media Device (FMD)

      **STAT RMD**      Status of Removable Media Device (RMD)

5    Test that the system monitors are working:

      **LD 37**              Load program

      **ENL TTY x**      x= system XMS

      **STAT XSM**      Check the system monitors

      **\*\*\*\***              Exit program

6    Clear the display and minor alarms on both Cores:

      **LD 135**             Load program

      **CDSP**             Clear the displays on the cores

      **CMAJ**             Clear major alarms

      **CMIN ALL**      Clear minor alarms

**7**   Test the clocks:

   **a.**   Verify that the clock controller is assigned to the *active* Core.

   | | |
   |---|---|
   | **LD 60** | Load program |
   | **SSCK** *x* | To get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1) |
   | **SWCK** | To switch the Clock (if necessary) |
   | **\*\*\*\*** | Exit program |

   **b.**   Verify that the Clock Controllers are switching correctly.

   | | |
   |---|---|
   | **SWCK** | Switch the Clock |
   | | *Note:* You must wait a minimum of one minute for clocks to synchronize. |
   | **SWCK** | Switch the Clock again |

**8**   Check dial tone.

**9**   Check applications.

**10**   Test the Fiber Rings:

   See *Software Input/Output: Maintenance* (NN43001-711) for more information about LD 39 commands.

   **a.**   Check that the Fiber Rings operate correctly:

   | | |
   |---|---|
   | **LD 39** | Load program |
   | **STAT RING 0** | Check the status of Ring 0 (HALF/HALF) |
   | **STAT RING 1** | Check the status of Ring 1 (HALF/HALF) |

   **b.**   If necessary, restore the Rings to Normal State:

   | | |
   |---|---|
   | **RSTR** | Restore both Rings to HALF state |

    **c.**   Check that the Rings operate correctly:

    **STAT RING 0**      Check the status of Ring 0 (HALF/HALF)

    **STAT RING 1**      Check the status of Ring 1 (HALF/HALF)

**11**  Check the status of the FIJI alarms:

    **STAT ALRM**      Query the alarm condition for all FIJI cards in all Network Groups

    **\*\*\*\***          Exit program

**12**  Check applications.

**13**  Check dial tone.

## Switching call processing

**Procedure 23**
**Switching call processing**

| | |
|---|---|
| **LD 135** | Load program |
| **SCPU** | Switch call processing from Core/Net 1 to Core/Net 0 |

✔ Core/Net 0 is now the active call processor.

**Procedure 24**
**Testing Core/Net 1**

**From active Core/Net 0**, perform these tests on Core/Net 1:

1    Perform a redundancy sanity test:

| | |
|---|---|
| **LD 135** | Load program |
| **STAT CPU** | Obtain status of CPU and memory |
| **TEST CPU** | Test the CPU |

2    Test the System Utility card and the cCNI cards:

| | |
|---|---|
| **LD 135** | Load program |
| **STAT SUTL** | Obtain the status of the System Utility card |
| **TEST SUTL** | Test the System Utility card |
| **STAT CNI c s** | Obtain status of cCNI cards (core, slot) |
| **TEST CNI c s** | Test cCNI (core, slot) |

3   Test system redundancy and media devices:

    **LD 137**        Load program

    **TEST RDUN**    Test redundancy

    **DATA RDUN**    Test database integrity

    **STAT FMD**     Status of Fixed Media Device (FMD)

    **STAT RMD**     Status of Removable Media Device (RMD)

    **\*\*\*\***         Exit the program

4   Test that the system monitors are working:

    **LD 37**         Load program

    **STAT XSM**     Check the system monitors

    **\*\*\*\***         Exit the program

5   Clear the display and minor alarms on both Cores:

    **LD 135**        Load program

    **CDSP**          Clear the displays on the cores

    **CMAJ**          Clear major alarms

    **CMIN ALL**    Clear minor alarms

**6** Test the clocks:

   **a.** Verify that the clock controller is assigned to the *active* Core.

     **LD 60**          Load program

     **SSCK** *x*          Obtain the status of the clock controllers
                                    (*x* is "0" or "1" for Clock 0 or Clock 1)

     **SWCK**          Switch the Clock (if necessary)

     **\*\*\*\***           Exit program

   **b.** Verify that the Clock Controllers are switching correctly.

     **SWCK**          Switch the Clock

                               *Note:* You must wait a minimum of one minute for clocks to synchronize.

     **SWCK**          Switch the Clock again

**7** Check dial tone.

**8** Check applications.

**9** Test the Fiber Rings:

   **a.** Check that the Fiber Rings operate correctly:

     **LD 39**              Load program

     **STAT RING 0**     Check the status of Ring 0 (HALF/HALF)

     **STAT RING 1**     Check the status of Ring 1 (HALF/HALF)

   **b.** If necessary, restore the Rings to Normal State:

     **RSTR**              Restore both Rings to HALF state

   **c.** Check that the Rings operate correctly:

     **STAT RING 0**     Check the status of Ring 0 (HALF/HALF)

     **STAT RING 1**     Check the status of Ring 1 (HALF/HALF)

**10**    Check the status of the FIJI alarms:

    **STAT ALRM**    Query the alarm condition for all FIJI cards in all Network Groups

    **\*\*\*\***    Exit program

**11**    Check applications.

**12**    Check dial tone.

———————— **End of Procedure** ————————

## Performing a customer backup data dump (upgraded release)

**Procedure 25**
**Performing a data dump to backup the customer database:**

**1**    Log into the system.

**2**    Insert a CF card into the active Core/Net RMD slot to back up the database.

**3**    Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

    **LD 43**    Load program.

    **.**    EDD

**4**    When "EDD000" appears on the terminal, enter:

    **EDD**    Begin the data dump.

| ⚠ | **CAUTION**<br>**Loss of Data**<br><br>If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding. |
|---|---|

**5**  When "DATADUMP COMPLETE" and "DATABASE BACKUP
      COMPLETE" appear on the terminal, enter:

    ****            Exit program

———————————  **End of Procedure**  ———————

The CS 1000M MG CP PII FNF upgrade to CS 1000M MG CP PIV with FNF
is complete.

# Installing a Signaling Server

## Contents

This chapter contains the following topics:

## Introduction

This chapter contains general instructions to install and connect Server card hardware. This chapter also contains general instructions to connect Commercial off-the-shelf (COTS) servers.

The Communication Server 1000M system supports the Common Processor Pentium Mobile (CP PM) card model NTDW66, the Common Processor Dual Core (CP DC) model NTDW54, and the Commercial off-the-shelf (COTS) servers.

A Nortel CP PM, CP DC or COTS server that you deploy with Signaling Server applications is referred to as a Signaling Server. A Nortel CP PM or

COTS server that you deploy with SIP Line can be referred to as a SIP Line
Gateway.

---

**IMPORTANT!**

Instructions to install an IBM X306m, IBM x3350, or HP DL320-G4, or
Dell R300 COTS server are not included in this chapter. Detailed
installation instructions are in the IBM xSeries 306m User Guide, IBM
x3350 User Guide, HP ProLiant DL320 Generation 4 Server User
Guide, or the Dell PowerEdge R300 User Guide shipped with the server.

---

# Signaling Server task flow

This section provides a high-level task flow for the installation or upgrade of
a CS 1000 system. The task flow indicates the recommended sequence of
events to follow when configuring a system and provides the NTP number
that contains the detailed procedures required for the task.

For more information refer to the following NTPs, which are referenced in
Figure 20 on page 119:

- *Linux Platform Base and Applications Installation and Commissioning*
  (NN43001-315)

- *Element Manager System Administration* (NN43001-632)

- *Signaling Server IP Line Applications Fundamentals* (NN43001-125)

**Figure 20**
**Signaling Server task flow**
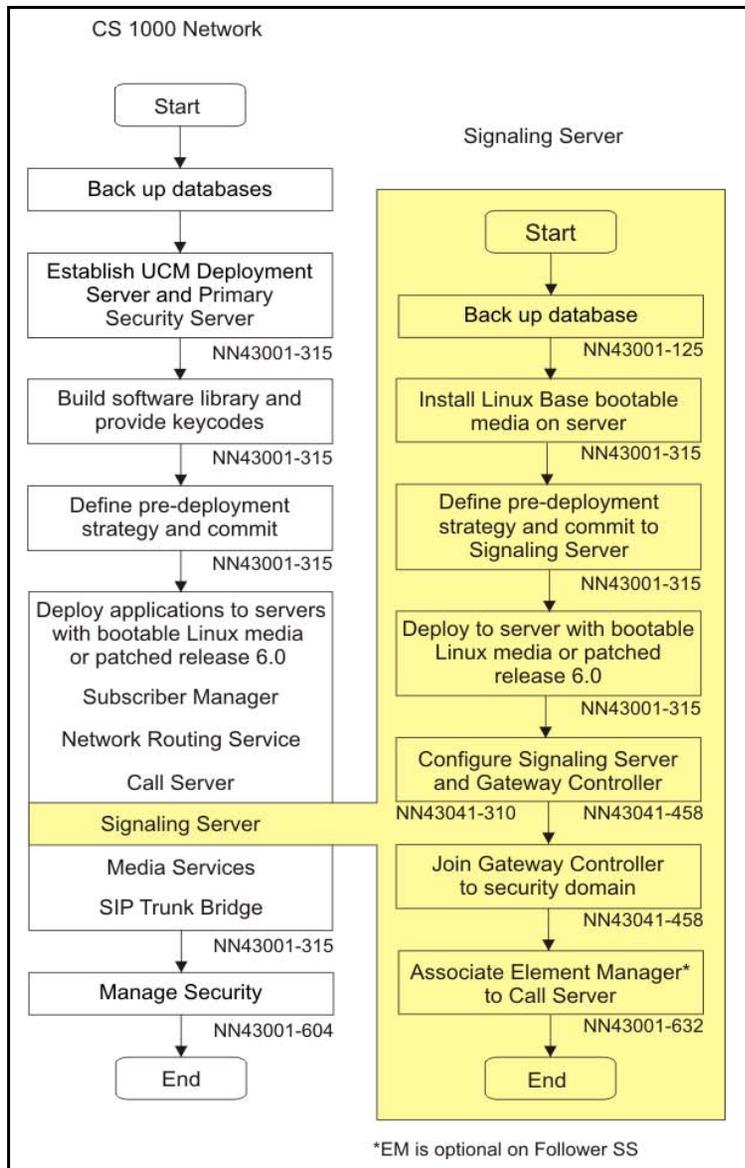
# Upgrading and reconfiguring the software

CS 1000 Release 7.0 supports the following Signaling Server hardware:

- Nortel CP PM server

- Nortel CP DC server

- IBM X306m server

- IBM x3350 server

- HP DL320-G4 server

- Dell R300 server

Nortel CP PM, IBM X306m, and HP DL320-G4 servers do not support any Signaling Server software prior to CS 1000 Release 5.0. CS 1000 Release 6.0 added support for IBM x3350 and Dell R300 Commercial off-the-shelf (COTS) Signaling Servers. Release 7.0 adds the Nortel CP DC server.

> **IMPORTANT!**
>
> Nortel CS 1000 Release 7.0 does not support the Nortel ISP1100 Signaling Server. You must replace the ISP1100 with a CP PM, CP DC, or COTS Signaling Server.

This chapter contains information and references for upgrading the Signaling Server software from a previous release to CS 1000 Release 7.0. Signaling Server applications in CS 1000 Release 7.0 require Linux. You must install Linux Base on your CP PM, CP DC or COTS server before you can install any Signaling Server applications.

If you are upgrading from a Vxworks Signaling Server, Nortel recommends you to backup your IP Phone database and Network Routing Service (NRS) database on your current software release before upgrading to Linux Base and installing applications. You can restore your IP Phone database and NRS backups when you complete the Signaling Server upgrade.

CS 1000 Release 7.0 requires a Signaling Server to have at least 2 GB of RAM memory, and at least 40 GB of hard drive capacity. You must upgrade Signaling Servers with less than 2GB of RAM before installing CS 1000 Release 7.0 Linux Base and Signaling Server software. For detailed

instructions on performing this memory upgrade, see *Circuit Card: Description and Installation* (NN43001-311).

You can upgrade a CP PM Signaling Server to support the Linux base and applications for Communication Server 1000 Release 7.0 with a CP PM Signaling Server Linux upgrade kit. The NTM427CBE6 upgrade kit includes the following components.

- NTDW6102E5 - CP PM Signaling Server hard drive (Linux OS preloaded)
- NTM42703 - 2 GB Compact Flash (CF) with Linux software, 2 GB blank CF
- NTDW6109E6 - 1 GB DDR SO-DIMM memory upgrade

## Overview

To upgrade a Signaling Server:

- Use EM and make a PD backup if necessary
- Install Linux Base and configure parameters
- Use Centralized Deployment manager to install Signaling Server applications
- Use EM, configure the system or import backup node files
- Use EM and restore the PD backup

Nortel recommends that you back up the application databases prior to the upgrade as a precautionary measure. The application databases consist of the IP Phone database and the NRS database.

If you do not know whether the Signaling Server being upgraded has an NRS, use Procedure 26, "Verifying the presence of an NRS," on to make this determination.

If you have an NRS database on the Signaling Server and wish to back it up prior to the upgrade, you must use the back up tool in NRS Manager. After the Signaling Server is upgraded, NRS Manager is used to restore the NRS database (from your local PC) and activate it for use by the NRS. For

instructions on backing up and restoring an NRS database, see *IP Peer Networking: Installation and Commissioning* (NN43001-313).

For instructions on backing up and restoring the IP Phone database, see *Signaling Server IP Line Applications Fundamentals* (NN43001-125).

**Procedure 26**
**Verifying the presence of an NRS**

**1** Open Internet Explorer.

**2** Enter the ELAN or TLAN network interface IP Address of the primary Signaling Server as the URL.

*Note:* Note: Do not assign the same IP address for the Node ID and the TLAN network interface IP address. This must be verified manually. The Node IP address must be on the same subnet as the TLAN network interface IP addresses of the Media Cards. In addition, the TLAN and ELAN network interfaces of the Media Card must reside on separate logical subnets.

If additional configuration parameters were entered during installation, the node IP address can also be used as the URL.

The Element Manager logon web page appears.

**Figure 21**
**Element Manager logon page**
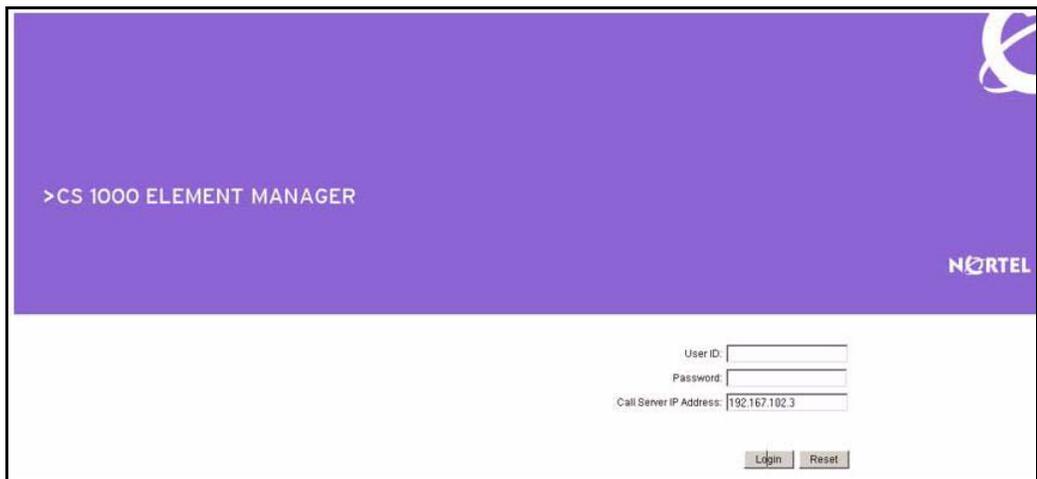
Initially, you can be prompted to enter the Call Server IP address, because the Call Server is used for web logon authorization. The Call Server IP address is a requirement, because unless you entered additional configuration parameters during the Signaling Server installation, the node configuration data file containing the Call Server IP address does not yet exist.

**3**    Enter a Level 1 or Level 2 user ID and password. If configured, you can also use a Limited Access Password (LAPW) user ID and password.

If this is the first time the Call Server is accessed, the default Level 1 or Level 2 user ID and password must be used.

If the logon is successful, the Element Manager "Home - System Overview" screen appears (see Figure 22 on ).

**Figure 22**
**Element manager: Home - System Overview**



This screen identifies the components of your CS 1000 system.

**4**    Click the "+" symbol in front of the Signaling Server component.

The Signaling Server component expands to display the properties of the Signaling Server (see Figure 23 on ).

**Figure 23**
**Signaling Server properties**
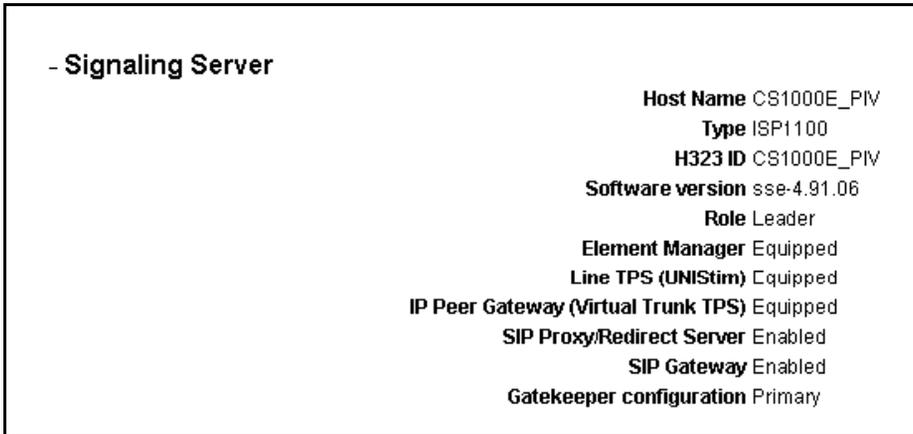


**5**    View the contents of the "Gatekeeper configuration" property.

If the Gatekeeper configuration property indicates Primary (as is the case here), Alternate or Failsafe, the Signaling Server hosts an NRS. If the property indicates nothing, the Signaling Server does not host an NRS.

———————————— **End of Procedure** ————————————

### Before you begin

Before upgrading the software, you must do the following:

- Connect the Signaling Server — see *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)

- Take a precautionary backup of the IP Phones application database.

- Take a precautionary backup of the NRS database.

- Obtain the CS 1000 Release 7.0 version of the Signaling Server Software Install media, see *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)

- Ensure that there is 2 GB of RAM, and at least 40 GB of hard drive capacity on your CP PM or COTS Signaling Server

## Upgrade the CP PM BIOS

The NTDW66CAE6 CP PM card (CP PM version 2) does not require a BIOS upgrade. The CP PM version 2 uses an updated design, BIOS, and boot manager. Older NTDW66 CP PM cards (CP PM version 1) can require a BIOS upgrade to support Linux.

The Communication Server 1000 Release 7.0 Linux Platform Base installer requires that a CP PM version 1 card runs BIOS version 18 or higher. If the installer detects a lower version on the CP PM card it automatically loads software for you to upgrade the CP PM BIOS. Perform the steps in Procedure 27 to upgrade the CP PM BIOS to version 18.

For information about manually upgrading the CP PM BIOS with VxWorks software, see *Communications Server 1000E Maintenance* (NN43041-700).

**Procedure 27**
**Upgrading the CP PM BIOS with the Linux Base installer**

1  Connect to serial port 1 on the CP PM.

2  Insert the Linux Base installation CF card into the faceplate CF slot.

3  Power on the system.

4  Once the initial boot and memory check completes for a CP PM version 1 card, Figure 24 appears. Press the **F** key to boot from the Linux Base installation faceplate CF card.

   *Note:* For CP PM version 2 cards, press the **F** key to enter the boot menu, select Faceplate RMD, and press **Enter** to boot from the faceplate CF card.

**Figure 24**
**CP PM faceplate drive boot**

```
+--------------------------------------+--------------------------------------
| System CPU          : Pentium M      | Low Memory           : 632KB
| Coprocessor         : Enabled        | Extended Memory      : 1011MB
| Ide 0 Type          : 3              | Serial Ports 1-2     : 03F8 02F8
| Ide 1 Type          : 3              | ROM Shadowing        : Enabled
| Ide 2 Type          : 3              | BIOS Version         : NTDU74AA 14
+--------------------------------------+--------------------------------------

Press F to force board to boot from faceplate drive.
.....................................................

Attempting to boot from faceplate drive.


CPU Frequency = 1400 MHz

V1.6a+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++■
```

**5**    The welcome screen appears. Press **ENTER** to direct the input and output to COM1.

**6**    Figure 25 appears if the CP PM card has a BIOS version lower than 18. Enter **yes** to proceed with the automatic upgrade.

> **CAUTION — Damage to Equipment**
>
> Do not interrupt the BIOS upgrade process.

**Figure 25**
**CP PM BIOS automatic upgrade**

```
###########################################################################
#                                                                         #
#     CP-PM BIOS version is less than 18.  BIOS upgrade is required.      #
#                                                                         #
# To complete the upgrade, BIOS settings must be changed to defaults.  #
#         Please refer to the documentation for more information.         #
#                                                                         #
###########################################################################


Do you want to upgrade BIOS ROM up to the version 18? (yes/no): yes

BIOS ROM upgrade. Please wait...


BIOS ROM upgrade is finished.

Machine will be rebooted right now... Press Enter key to continue
```

**7**    Verify that the BIOS upgrade is finished. Press **Enter** to reboot.

**8**    During the reboot memory check, press **Ctrl c** to access the CP PM BIOS setup menu.

*Note:*  If you miss the timing to press **Ctrl c** you must reboot the system and try again. The Linux Platform Base installation software will display a warning if you do not reset the CP PM BIOS to factory defaults.

**9**    Figure 26 appears. Select **Reset CMOS to factory defaults** from the menu.

**Figure 26**
**CP PM BIOS setup**
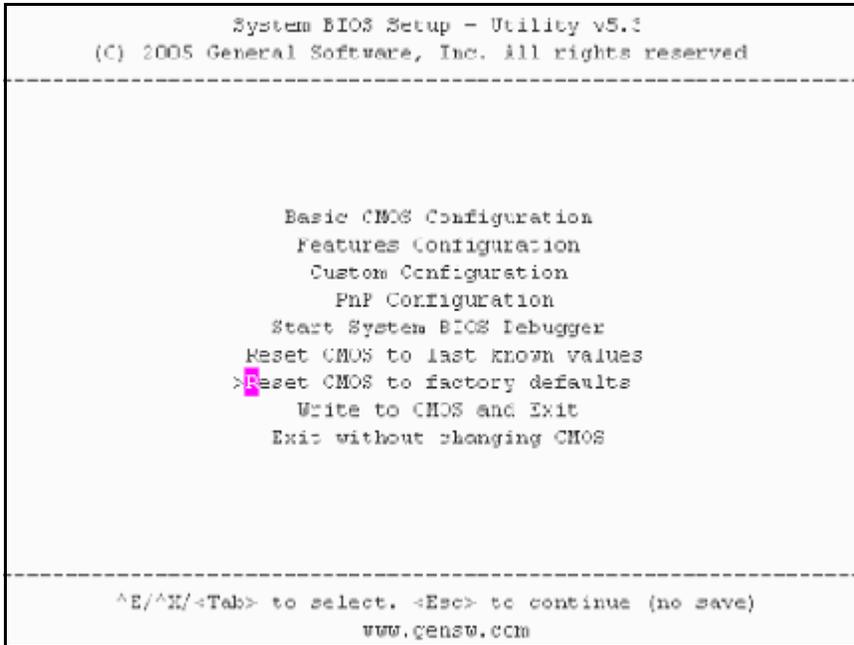


10   Figure 27 appears. Press **y** to reset CMOS to factory defaults.

**Figure 27**
**CP PM BIOS reset**



```
            System BIOS Setup - Utility v5.3
    (C) 2005 General Software, Inc. All rights reserved
-----------------------------------------------------------------



                  Basic CMOS Configuration
                  Features Configuration
        +---------------------------------------------+
        | Reset CMOS to factory defaults? (Y/N): y    |
        |                                             |
                Reset CMOS to last known values
                Reset CMOS to factory defaults
                    Write to CMOS and Exit
                  Exit without changing CMOS




-----------------------------------------------------------------
    ^E/^X/<Tab> to select. <Esc> to continue (no save)
                      www.gensw.com
```

**11** The system reboots. After initial boot Figure 24 appears and the new BIOS version is displayed. Verify BIOS version is 18. You can now press the **F** key to boot from the faceplate CF card and proceed with the Linux Platform Base software installation.

———————————— **End of Procedure** ————————————

## Installing the Linux Base

Perform the Linux Base installation if your Signaling Server does not currently run Linux Base for Release 7.0. The CP PM Linux upgrade kit contains a hard drive with Linux Base preloaded. You can install Linux Base from the command line interface (CLI) using a bootable CF card on CP PM, and using a bootable optical disk on COTS. Configure the ELAN, TLAN, IP address, Gateway, subnet masks, date, and time settings during the Linux Base installation. For more information about installing or upgrading Linux Base, see *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

## Installing Linux applications

Nortel CS 1000 Release 7.0 Signaling Server and SIP line software are Linux applications. Linux applications install on Linux Base and interact with the Linux Base application framework. You can deploy and install Linux applications with the Linux Base Centralized Deployment manager. You can configure a deploy SIP Line with Element Manager (EM).

For information about Linux applications, Centralized Deployment manager, and EM, see *Element Manager System Administration* (NN43001-632), *Signaling Server IP Line Applications Fundamentals* (NN43001-125), and *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

## Joining the UCM security domain

The UCM Primary Security Server acts as the RADIUS server that Communication Server 1000 devices use to obtain authentication and access control parameters for CLI access. The UCM Primary Security Server sends RADIUS related parameters to Communication Server 1000 devices using the SSH protocol.

When a device joins the UCM security domain, a mutually-trusted SSH channel is created. You must manually confirm the fingerprint of the public key before the UCM Primary Security Server RSA public key is added to the authorized key file. This verification prevents third-party intercepts.

When a mutually-trusted SSH tunnel establishes a connection to a Communication Server 1000 device, the UCM Primary Security Server can send SSH remote commands to the device using RSA public key-based authentication.

For more information about joining the UCM security domain, see *Security Management* (NN43001-604).

# Appendix A: Upgrade checklists

## Contents

This chapter contains the following topics:

## Introduction

The following section provides Large System upgrade checklists.

### Technical Support

Nortel can provide an Installation and Upgrade Support team to assist with PBX upgrades on a scheduled bases. This service is billable and a purchase order is required. Please refer to current price book for rates.

*Note:* This service requires that a service request be opened in advance of the upgrade.

# Site details

**Table 6**
**Site Details**

| | |
|---|---|
| Customer Name | |
| Tape ID (LD 22) | |
| Modem Number (Core) | |
| Switch Room Telephone | |
| Baud Rate | |
| Modem Password | |
| PBX Password | |
| System Type | |
| Software Generic | |

# Upgrade details

**Table 7**
**Upgrade details**

| | |
|---|---|
| Current Software - Generic | |
| Target Software - Generic | |
| Hardware being added | |
| Feature Upgrade | |
| License Upgrade | |

# Preupgrade checklists

## Software Upgrade

### Software audit

**Table 8**
**Software audit**

| Software Audit | | |
|---|---|---|
| Perform the software audit prior to the scheduled upgrade. | | |
| Take corrective action if answer is no | | |
| | Yes | No |
| Software CD Ready | | |
| Keycode Disk Ready | | |
| Install Disk Ready | | |
| DEP Patch Disk Ready | | |
| Review Keycode Data Sheet - (SDID,PKGS,License,TID) | | |
| Review Site Specific Patches - (Non MDCS) | | |
| Read GRB for target Release – (Verify Memory Requirements) | | |

## License Upgrade

**Table 9**
**Keycode audit**

| Keycode Audit | | |
|---|---|---|
| Perform the keycode Audit prior to the scheduled upgrade. | | |
| Take corrective action if answer is no | | |
| | Yes | No |
| Keycode Disk Ready | | |
| Keycode Data Sheet Ready | | |
| SDID Matches System | | |
| TID Matches System | | |
| Perform a KDIFF in LD 143 to compare keycodes | | |

## Conversion Required

**Table 10**
**Conversion Procedures**

| Conversion Procedures | |
|---|---|
| Upgrades between different machine types require some type of conversion. | |
| If the disk media is changing the database must be physically transferred | |
| between storage devices. Please select source and target media. | |

**Table 11**
**Typical Storage Media Changes Between machine Types (Part 1 of 2)**

| Typical Storage Media Changes Between machine Types | | |
|---|---|---|
| Source | Target | Procedure Required |
| CMDU | IODUC | 4M - 2M media transfer |

**Table 11**
**Typical Storage Media Changes Between machine Types (Part 2 of 2)**

| IODUC | MMDU | Disk to new Drive both use 2M Floppy Drives |
|-------|------|---------------------------------------------|
| MMDU | MMDU | Disk to new Drive |

## Hardware Upgrade

### Hardware audit

**Table 12**
**Hardware audit**

| Hardware Audit | | |
|---|---|---|
| Perform the Hardware Audit prior to the scheduled upgrade. | | |
| | Yes | No |
| Verify Shipping List - Complete and Accurate | | |
| Audit Site for new hardware locations | | |
| Pre Run Cables if possible | | |
| Review All switch settings for new cards | | |
| Read all applicable NTP Procedures completely | | |

# Preconversion steps

**Table 13**
**Preconversion steps (Part 1 of 2)**

| Pre Conversion Steps |
|---|
| A capture file should be made of the following information using a PC or Printer. |
| Perform an overall system check: |
| LD 135 SCPU (ensure that the system is redundant) |
| LD 137 STAT/TEST CMDU |
| LD 96 STAT DCH |
| LD 48 STAT AML |
| LD 32 STAT |
| LD 60 STAT |

**Table 13**
**Preconversion steps (Part 2 of 2)**

| |
|---|
| LD 30 LDIS (Verify what Is disabled if any) |
| Obtain Software Information from LD 22 |
| ISSP - Patches in service - Future Reference if required |
| LD 143 - MDP ISSP -Prints all inservice patches and patch handle numbers (includes all DepList patches) |
| TID/SLT - License Parameters - To compare with converted database |
| LD 21 - PRT CFN |
| LD 97 - PRT SUPL/XPEC |
| Run a Template Audit |
| LD 1 - Auto Run |
| Perform a Datadump |
| Backup at least two copies of the current database, retain the copies. |
| Print History File or System Event Log |
| LD 22 - Print AHST - Capture Systems Events to compare will new software if required |
| LD 117 - PRT SEL 500 - Same as above |

# Postconversion checks

**Table 14**
**Postconversion checks**

| Post Conversion Checks |
| --- |
| Perform these checks after a successful INI. |
| Test for dial tone |
| Stat D Channels for proper operation |
| Ensure that all XPEC's are in service via visual inspection |
| Ensure that all AUX applications are working |
| LD 30 LDIS (Verify that output is the same prior to upgrade) |

# Quick reference

### IGS Cabling Chart - MultiGroup PBX - Opt 81/81C/CPP (5 Groups Maximum)

**Table 15**
**IGS cabling chart (Part 1 of 2)**

| Net Group | Net Shelf | IGS Connector | IGS Net | Slot | Net | DIGS | Slot Connector | Intergroup connector | I G S | Clock |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 0 | 3 | 8 | 2 | 9 | BOTTOM | J1 | 0 | |
| 0 | 0 | 1 | 2 | 9 | 2 | 9 | TOP | J6 | 2 | 0 |
| 0 | 1 | 1 | 2 | 9 | 2 | 9 | TOP | J17 | 3 | 1 |
| 0 | 1 | 0 | 3 | 8 | 2 | 9 | BOTTOM | J22 | 1 | |
| | | | | | | | | | | |
| 1 | 0 | 0 | 3 | 8 | 2 | 9 | BOTTOM | J2 | 4 | |

**Table 15**
**IGS cabling chart (Part 2 of 2)**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 1 | 2 | 9 | 2 | 9 | TOP | J7 | 6 | 0 |
| 1 | 1 | 1 | 2 | 9 | 2 | 9 | TOP | J16 | 7 | 1 |
| 1 | 1 | 0 | 3 | 8 | 2 | 9 | BOTTOM | J21 | 5 | |
| | | | | | | | | | | |
| 2 | 0 | 0 | 3 | 8 | 2 | 9 | BOTTOM | J3 | 8 | |
| 2 | 0 | 1 | 2 | 9 | 2 | 9 | TOP | J8 | 1 0 | 0 |
| 2 | 1 | 1 | 2 | 9 | 2 | 9 | TOP | J15 | 1 1 | 1 |
| 2 | 1 | 0 | 3 | 8 | 2 | 9 | BOTTOM | J20 | 9 | |
| 3 | 0 | 0 | 3 | 8 | 2 | 9 | BOTTOM | J4 | 1 2 | |
| 3 | 0 | 1 | 2 | 9 | 2 | 9 | TOP | J9 | 1 4 | 0 |
| 3 | 1 | 1 | 2 | 9 | 2 | 9 | TOP | J14 | 1 5 | 1 |
| 3 | 1 | 0 | 3 | 8 | 2 | 9 | BOTTOM | J19 | 1 3 | |
| | | | | | | | | | | |
| 4 | 0 | 0 | 3 | 8 | 2 | 9 | BOTTOM | J5 | 1 6 | |
| 4 | 0 | 1 | 2 | 9 | 2 | 9 | TOP | J10 | 1 8 | 0 |
| 4 | 1 | 1 | 2 | 9 | 2 | 9 | TOP | J14 | 1 9 | 1 |
| 4 | 1 | 0 | 3 | 8 | 2 | 9 | BOTTOM | J18 | 1 7 | |

*Note:* A DIGS Card is located in the card slot position for IGS 1 in all network shelves. The IGS 1 slot detects the clock signals from the active clock controller and distributes the clock to the entire group. Three out of four IGS cards can be disabled at any given time via LD 39, the IGS 1 that is associated with the active clock cannot be disabled via software, e.g. if clock 1 is active then IGS's 3,7,11,15 and 19 can never be disabled as they are providing clock for their respective network groups.

**Group/Loop/PS/FIJI/3PE Switch Settings**

**Table 16**
**Switch settings (Part 1 of 2)**

| Group | Shelf | PS | Loops | FIJI* | 3PE NT8D35 Net** | 3PE NT5D21 Core Net** |
|-------|-------|-----|--------|--------|-------------------|------------------------|
| 0 | 0 | 0 | 0-16 | 0 0 | off on on on on on on on | off on on off on on on on |
| 0 | 1 | 1 | 16-31 | 0 1 | off on on on on on on off | off on on off on on on off |
| 1 | 0 | 2 | 32-47 | 1 0 | off on on on on on off on | off on on off on on off on |
| 1 | 1 | 3 | 48-63 | 1 1 | off on on on on on off off | off on on off on on off off |
| 2 | 0 | 4 | 64-79 | 2 0 | off on on on on off on on | off on on off on off on on |
| 2 | 1 | 5 | 80-95 | 2 1 | off on on on on off on off | off on on off on off on off |
| 3 | 0 | 6 | 96-111 | 3 0 | off on on on off off on | off on on off on off off on |
| 3 | 1 | 7 | 112-127 | 3 1 | off on on on off off off | off on on off on off off off |
| 4 | 0 | 8 | 128-143 | 4 0 | off on on on off on on on | off on on off off on on on |
| 4 | 1 | 9 | 144-159 | 4 1 | off on on on off on on off | off on on off off on on off |
| 5 | 0 | 10 | 160-175 | 5 0 | off on on on off on off on | off on on off off on off on |
| 5 | 1 | 11 | 176-191 | 5 1 | off on on on off on off off | off on on off off on off off |
| 6 | 0 | 12 | 192-207 | 6 0 | off on on on off off on on | off on on off off off on on |
| 6 | 1 | 13 | 208-233 | 6 1 | off on on on off off on off | off on on off off off on off |

**Table 16**
**Switch settings (Part 2 of 2)**

| 7 | 0 | 1 4 | 224-23 9 | 7 0 | off on on on off off off on | off on on off off off off on |
|---|---|---|---|---|---|---|
| 7 | 1 | 1 5 | 240-25 5 | 7 1 | off on on on off off off off | off on on off off off off off |

# Software generic by machine type

**Table 17**
**Software generic by machine type**

| System Type | Generic | System Type | Generic | Processors |
|---|---|---|---|---|
| ST | 1011 | Option 61 | 1111 | CP1 - NT6D66 - 68030 |
| STE | 1511 | Option 61 CP1 | 1811 | CP2 - NT9D19 - 68040 |
| NT | 1111 | Option 61 CP2 | 2311 | CP3 - NT5D10 - 68060 |
| XT | 1211 | Option 61 CP3 | 2511 | CP4 - NT5D03 - 68060E |
| RT | 1311 | Option 61 CP4 | 2911 | CPP - INTEL PII |
| Option 11 | 1411 | Option 71 | 1211 | CNI'S |
| Option 11 | 1411 | Option 81 CP1 | 1611 | Opt 81 - 8,9,10 |
| Option 11C | 2111 | Option 81 CP2 | 1911 | Opt 81C - 12,13,14 |
| Compact | X27 | Option 81 CP3 | 2611 | CPP - c9,c10,c11,c12 |
| Option 21 | 1011 | Option 81 CP4 | 3011 | Key Packages |
| Option21E | 1511 | Option 81C CP1 | 1611 | Opt 81 - PKG 298 |
| Option 51 | 1111 | Option 81C CP2 | 1911 | Opt 81C - PKG 299 |
| Option 51 CP1 | 1711 | Option 81C CP3 | 2611 | CPP - PKG 299,368 |
| Option 51 CP2 | 2211 | Option 81C CP4 | 3011 | FIJI - PKG 365 |
| Option 51 CP3 | 2411 | Option CP PII | 3311 | |
| Option 51 CP4 | 2811 | | | |

# Appendix B: Technical Assistance service

## Contents

This chapter contains the following topics:

## Nortel Technical Assistance Centers

To help customers obtain maximum benefit, reliability, and satisfaction from their CS 1000E systems, Nortel provides technical assistance in resolving system problems. Table 18 on page 146 lists the centers that provide this service.

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller for assistance.

If you purchased a Nortel service program, contact one of the following Nortel Technical Solutions Centers.

**Table 18**
**Customer Technical Services (Part 1 of 2)**

| Location | Contact |
|---|---|
| Nortel<br>Global Enterprise Technical Support (GETS)<br>PO Box 833858<br>2370 Performance Drive<br>Richardson, TX<br>75083 USA | North America<br><br>Telephone: 1 800 4NORTEL |
| Nortel Corp.<br>P.O. Box 4000<br>250 Sydney Street<br>Belleville, Ontario<br>K8N 5B7 Canada | North America<br><br>Telephone: 1 800 4NORTEL |
| Nortel Service Center - EMEA | EMEA<br><br>Telephone: 00 800 8008 9009 or<br>+44 (0)870 907 9009<br><br>E-mail: emeahelp@nortel.com |
| Nortel<br>1500 Concord Terrace<br>Sunrise, Florida 33323<br>USA | Brazil<br>Telephone: 5519 3705 7600<br>E-mail: entcts@nortel.com<br><br>English Caribbean<br>Telephone: 1 800 4NORTEL<br><br>Spanish Caribbean<br>Telephone: 1 954 858 7777<br><br>Latin America<br>Telephone: 5255 5480 2170 |

**Table 18**
**Customer Technical Services (Part 2 of 2)**

| Location | Contact |
|---|---|
| Network Technical Support (NTS) | Asia Pacific<br>Telephone: +61 28 870 8800 |
| | Australia<br>Telephone:1800NORTEL (1800 667835) or<br>+61 2 8870 8800<br>E-mail: asia_support@nortel.com |
| | People's Republic of China<br>Telephone: 800 810 5000<br>E-mail: chinatsc@nortel.com |
| | Japan<br>Telephone: 010 6510 7770<br>E-mail: supportj@nortel.com |
| | Hong Kong<br>Telephone: 800 96 4199<br>E-mail: chinatsc@nortel.com |
| | Taiwan<br>Telephone: 0800 810 500<br>E-mail: chinatsc@nortel.com |
| | Indonesia<br>Telephone: 0018 036 1004 |
| | Malaysia<br>Telephone: 1 800 805 380 |
| | New Zealand<br>Telephone: 0 800 449 716 |
| | Philippines<br>Telephone: 1 800 1611 0063 or 632 917 4420 |
| | Singapore<br>Telephone: 800 616 2004 |
| | South Korea<br>Telephone: 0079 8611 2001 |
| | Thailand:<br>Telephone: 001 800 611 3007 |

# Services available

Services available through the Technical Assistance Centers include:

- diagnosing and resolving software problems not covered by support documentation

- diagnosing and resolving hardware problems not covered by support documentation

- assisting in diagnosing and resolving problems caused by local conditions

There are several classes of service available. Emergency requests (Class E1 and E2) receive an immediate response. Service for emergency requests is continuous until normal system operation is restored. Non-emergency

requests (Class S1, S2, and NS) are serviced during normal working hours. Tables 19 and 20 describe the service classifications.

**Table 19**
**Technical service emergency classifications**

| Class | Degree of failure | Symptoms |
|-------|-------------------|----------|
| E1 | Major failure causing system degradation or outage | System out-of-service with complete loss of call-processing capability. |
| | | Loss of total attendant console capability. |
| | | Loss of incoming or outgoing call capability. |
| | | Loss of auxiliary Call Detail Reporting (CDR) in resale application. |
| | | Call processing degraded for reasons such as trunk group out-of-service: |
| | | • 10% or more lines out-of-service |
| | | • frequent initializations (seven per day or more) |
| | | • inability to recover from initialization or SYSLOAD |
| | | • consistently slow dial tone (eight seconds or more delay) |
| E2 | Major failure causing potential system degradation or outage | Standby CPU out-of-service. |
| | | Frequent initializations (one per day or more). |
| | | Disk drive failure. |
| | | Two sets of disks inoperative. |

**Table 20**
**Technical services non-emergency classifications**

| Class | Degree of failure | Symptoms |
|-------|-------------------|----------|
| S1 | Failure that affects service | Software or hardware trouble directly and continuously affecting user's service or customer's ability to collect revenue.<br><br>Problem that will seriously affect service at in-service or cut-over date. |
| S2 | Intermittent failure that affects service | Software or hardware faults that only intermittently affect service.<br><br>System-related documentation errors that directly result in or lead to impaired service. |
| NS | Failure that does not affect service | Documentation errors.<br><br>Software inconsistencies that do not affect service.<br><br>Hardware diagnostic failures (not defined above) that cannot be corrected by resident skills.<br><br>Test equipment failures for which a backup or manual alternative can be used.<br><br>Any questions concerning products. |

Except as excluded by the provisions of warranty or other agreements with Nortel, a fee for technical assistance may be charged, at rates established by Nortel. Information on rates and conditions for services are available through Nortel sales representatives.

# Requesting assistance

Collect the information listed in Table 21 before you call for service.

**Table 21**
**Checklist for service requests**

| | |
|---|---|
| Name of person requesting service | |
| Company represented | |
| Telephone number | |
| System number/identification | |
| Installed software generic and issue (located on data disk) | |
| Modem telephone number and password (if applicable) | |
| Seriousness of request (see Tables 19 and 20) | |
| Description of assistance required | |

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Nortel Communication Server 1000

# Communication Server 1000M and Meridian 1

CS 1000M MG CP PII FNF to CS 1000M MG CP PIV FNF Upgrade

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