
Nortel Communication Server 1000

Nortel Communication Server 1000 Release 7.0

Communication Server 1000M and Meridian 1

61C CP PII to CS 1000M SG CP PIV Upgrade

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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 Nortel Communication Server 1000 Release 6.0.

May 2009

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

December 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.

May 2006

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

January 2006

Standard 4.00. This document is upissued with corrections to 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 chapter 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 Meridian 1 Options 61C, 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.



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.

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

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 [page 115](#).

Upgrade paths

This document contains information about the following Large System upgrades:

- Meridian 1 Options 61C, CS 1000M SG, and 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 81C
- Commercial off-the-shelf (COTS) servers
 - IBM x306m server (COTS1)

- HP DL320 G4 server (COTS1)
- BM x3350 server (COTS2)
- Dell R300 server (COTS2)

In this document, the generic term COTS refers to all COTS servers. The term COTS1 or COTS2 refers to the specific servers in the preceding list.

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 postconversion 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 [page 165](#).

Preparing and planning for the upgrade

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

Procedure Step	Page
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Transferring the database from floppy disk to CF (customer database media converter tool)	37

Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.
- 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.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications (CallPilot, SCCS, IP, etc.) 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.

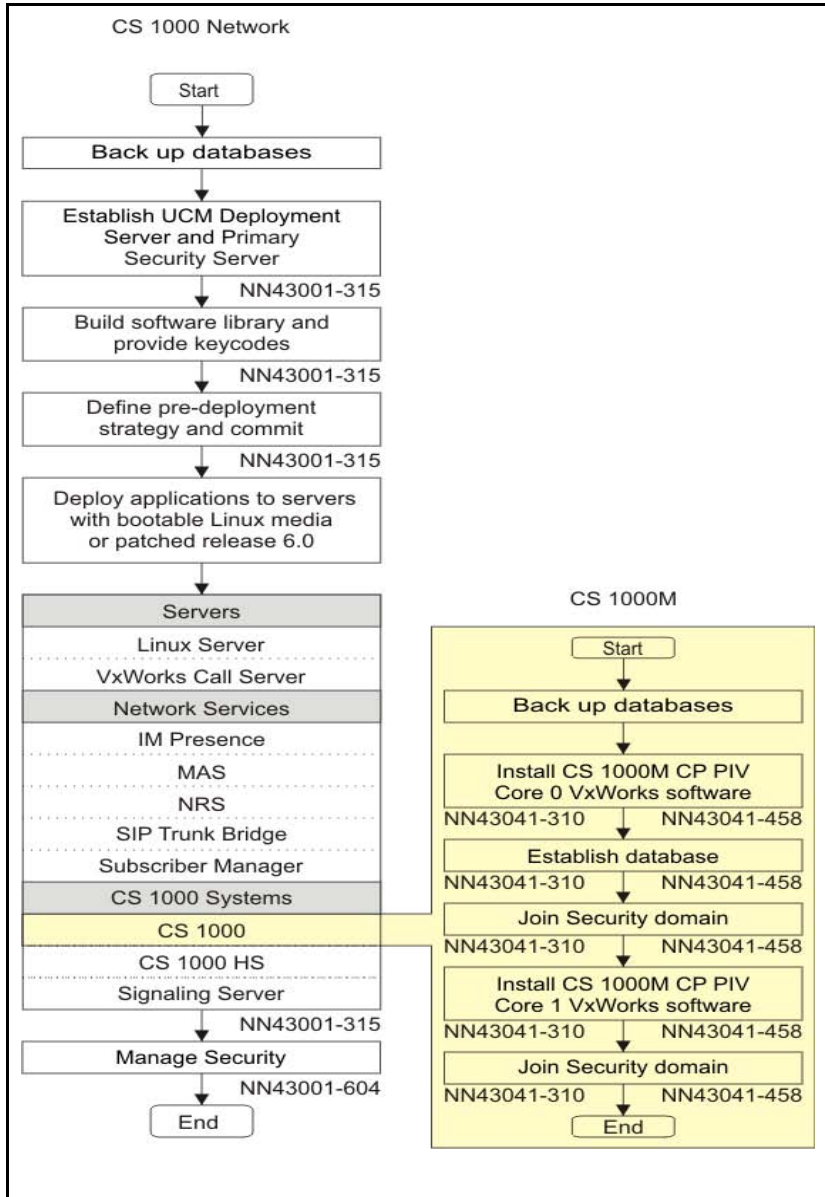
Communication Server 1000 task flow

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 [page 27](#):

- *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



Upgrade Checklists

Upgrade checklists can be found in “Upgrade checklists” on [page 153](#). 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 all system-patchable components (Call Server, Voice Gateway Media Cards, Signaling Servers and so on).
- Determine the required patches or DEP lists installed on all applications (CallPilot, Symposium Call Center Server, and so on).
- 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.

Connecting 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/O 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). 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, ROM and tape ID	LD 22	
	REQ	ISS
	REQ	ROM
	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	CHG
	TYPE	SUPL
	SUPL	Vxxx
		V stands for a virtual superloop and xxx is the number of the virtual superloop.
		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	CHECKSUM
LOW	OK

TEMPLATE 0002 USER COUNT	CHECKSUM
HIGH	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, perform a data dump to save all system memory to the hard disk.

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 — Service Interruption

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

- 5 Remove and label the floppy disk.



IMPORTANT!

Preserve database backup information for a minimum of 5 days.

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.

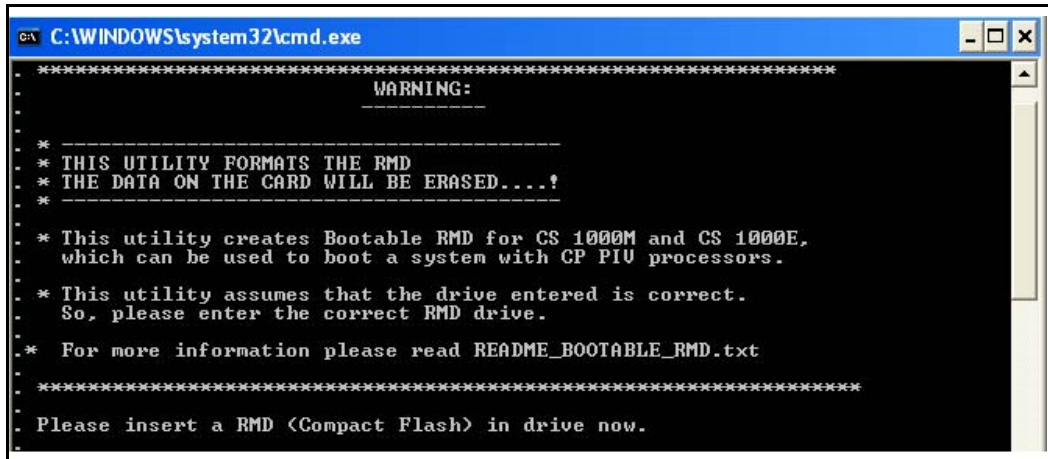
The installation RMD CF card must come preformatted and bootable from Nortel. Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 3.

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

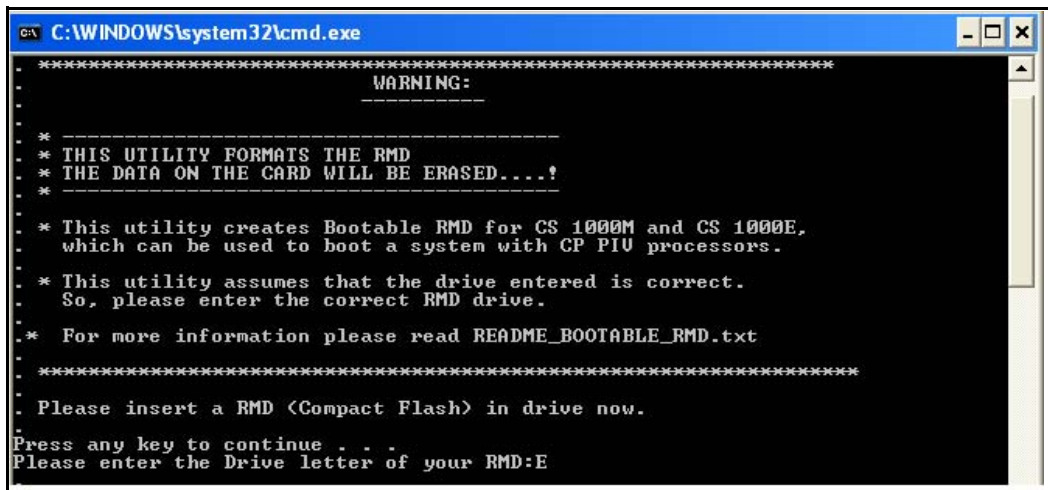


```

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 PIU 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



```

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 PIU 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.
Press any key to continue . . .
Please enter the Drive letter of your RMD:E
  
```

- 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 7.0 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

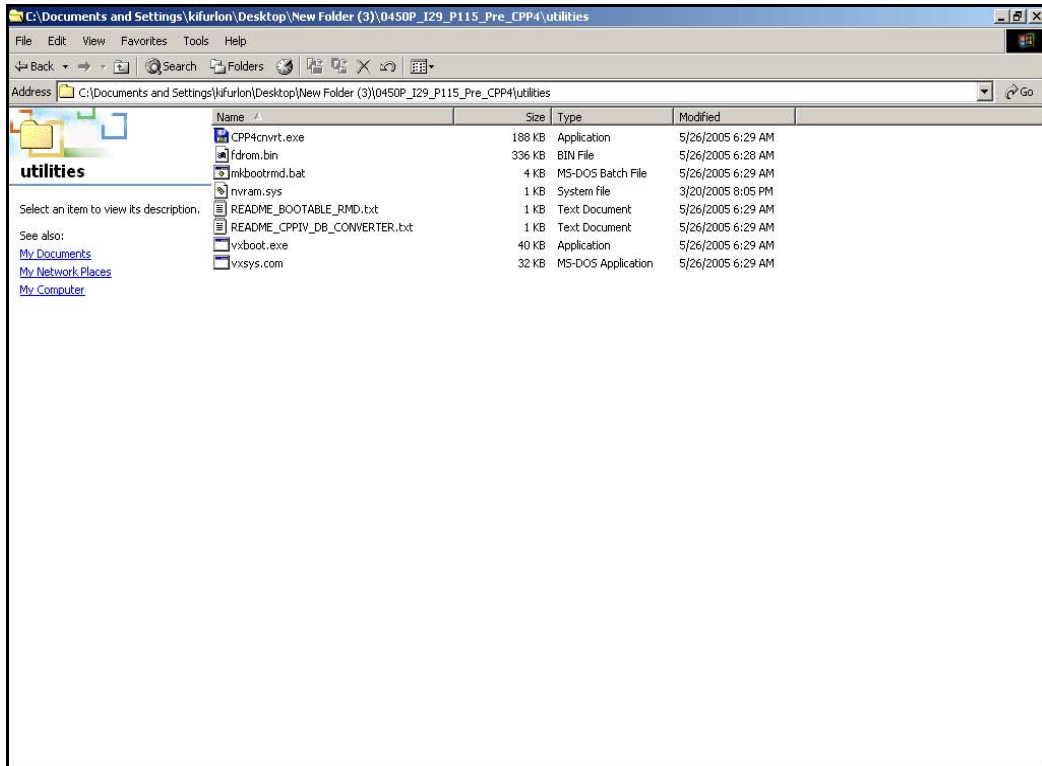
Procedure 4

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 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the Utilities folder. See Figure 5.

Figure 5
Utilities folder



- 3 Insert the floppy disk containing the backed up customer database from Procedure 2.
- 4 Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 5 Start the Database Media Converter utility by double clicking the CPP4cnvrt.exe file. The first screen (Figure 6) prompts you to select the correct drive letter for the floppy disk drive.

Figure 6
Select the floppy disk drive



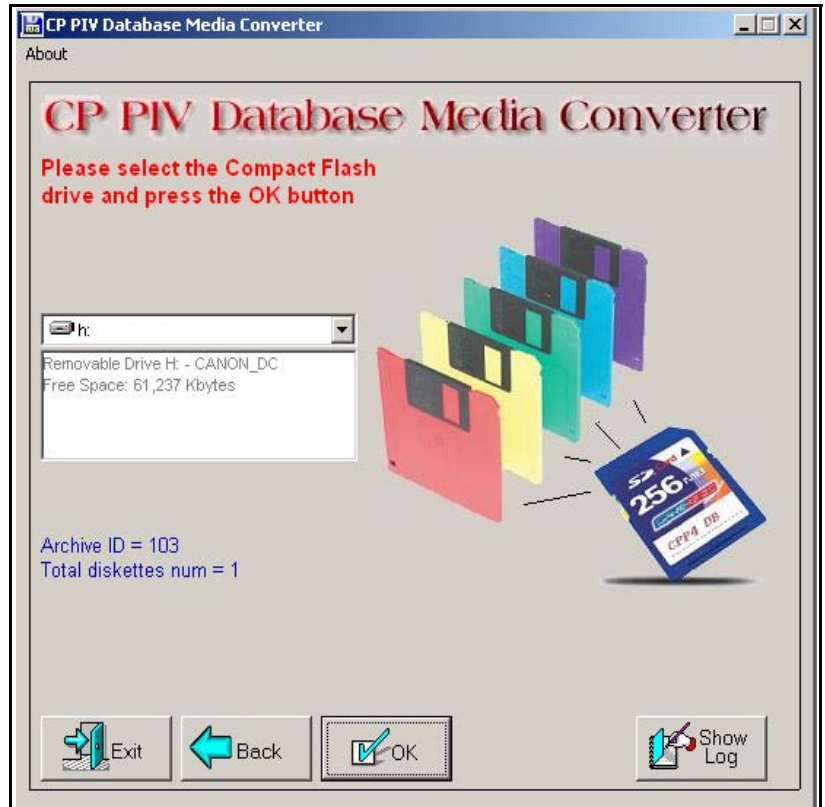
- 6 The utility then prompts you to insert the floppy disk (diskette 1) and click OK (see Figure 7).

Figure 7
Insert diskette 1



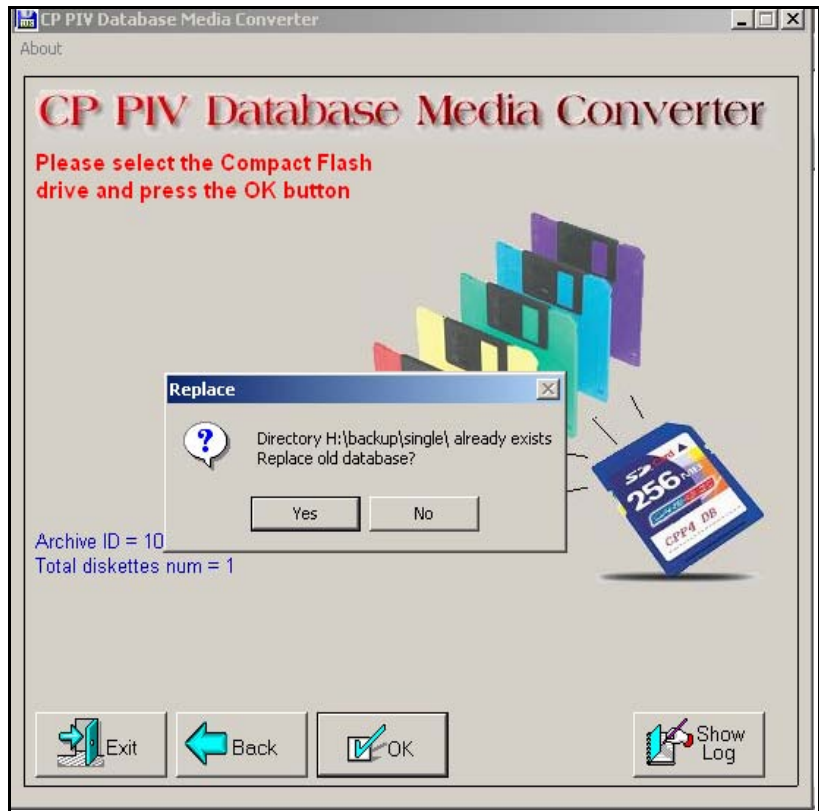
- 7 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 8).

Figure 8
Select the CF drive



- 8** 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 9 on [page 42](#)). Click yes to replace old database.
 - b.** If the CF card is blank, the database is backed up to the CF card.

Figure 9
Replace database on CF drive



- 9 The utility completes the transfer to CF and prompts you to copy another or EXIT.

Figure 10
Copy another or exit



End of Procedure

Performing the upgrade

Contents

This chapter contains following topics:

Reviewing upgrade requirements	45
Upgrading Core 1	52
Upgrading Core 0	79
Making the system redundant	102
Completing the CP PIV upgrade	106

Reviewing upgrade requirements

Upgrading to CS 1000M

The upgrade to CS 1000M (installing a Signaling Server) occurs after completing the procedures in this section. See Appendix : “Installing a Signaling Server” on [page 115](#).

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

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



WARNING

Service Interruption

DO NOT proceed with the upgrade if any of the required items are missing. All items must be received to complete 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).

Check required software

Compact Flash Software Install Kit (CP PIV)

The Compact Flash Software Install Kit contains the following items:

- One CF (512 MByte) card containing:
 - Install Software files
 - CS 1000 Release 7.0 software
 - Dep. Lists (PEPs)
 - Key code File

- One blank CF card for database backup
- One Nortel CS 1000 Release 7.0 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 required hardware

Meridian 1 Option 61C CP PIV hardware is configured at the factory according to customer requirements. Table 4 lists the hardware required for the upgrade.

Table 4
Hardware requirements for Meridian 1 Option 61C CP PIV upgrade

Order number	Description	Quantity per system
NT4N39	Control Processor Pentium IV	2
N0026096	MMDU replacement faceplate	2

Figure 11 on [page 48](#) shows the CP PIV processor card side view. Figure 12 on [page 49](#) shows the CP PIV processor card front view.

Figure 11
CP PIV call processor card (side)

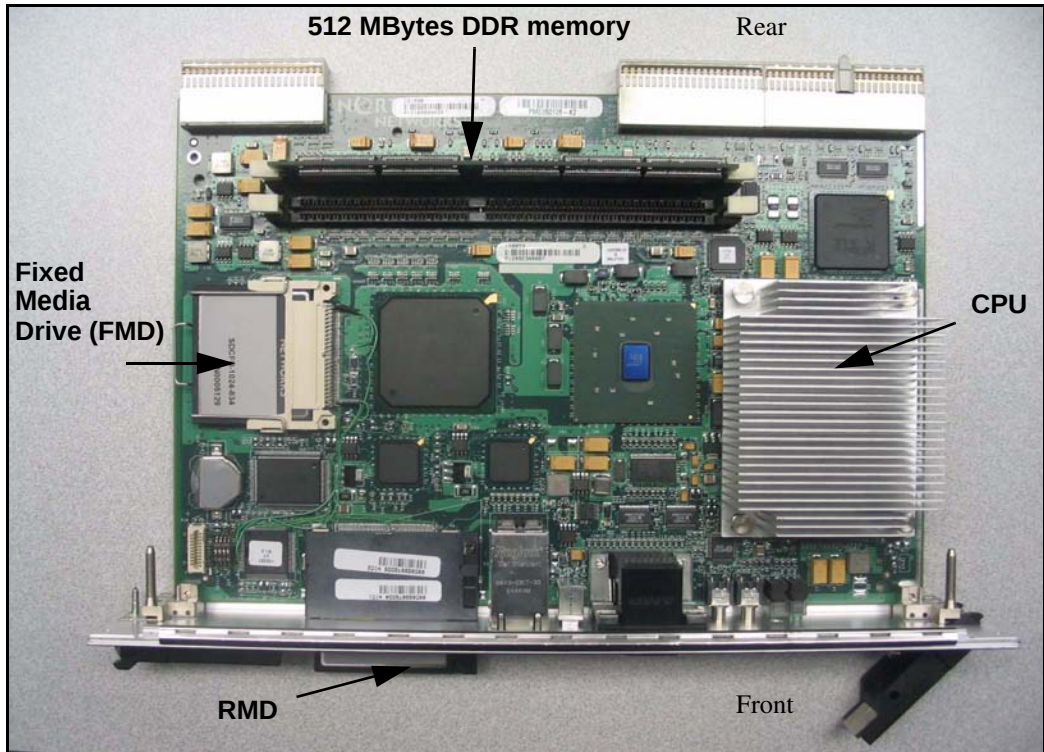


Figure 12
CP PIV call processor card (front)

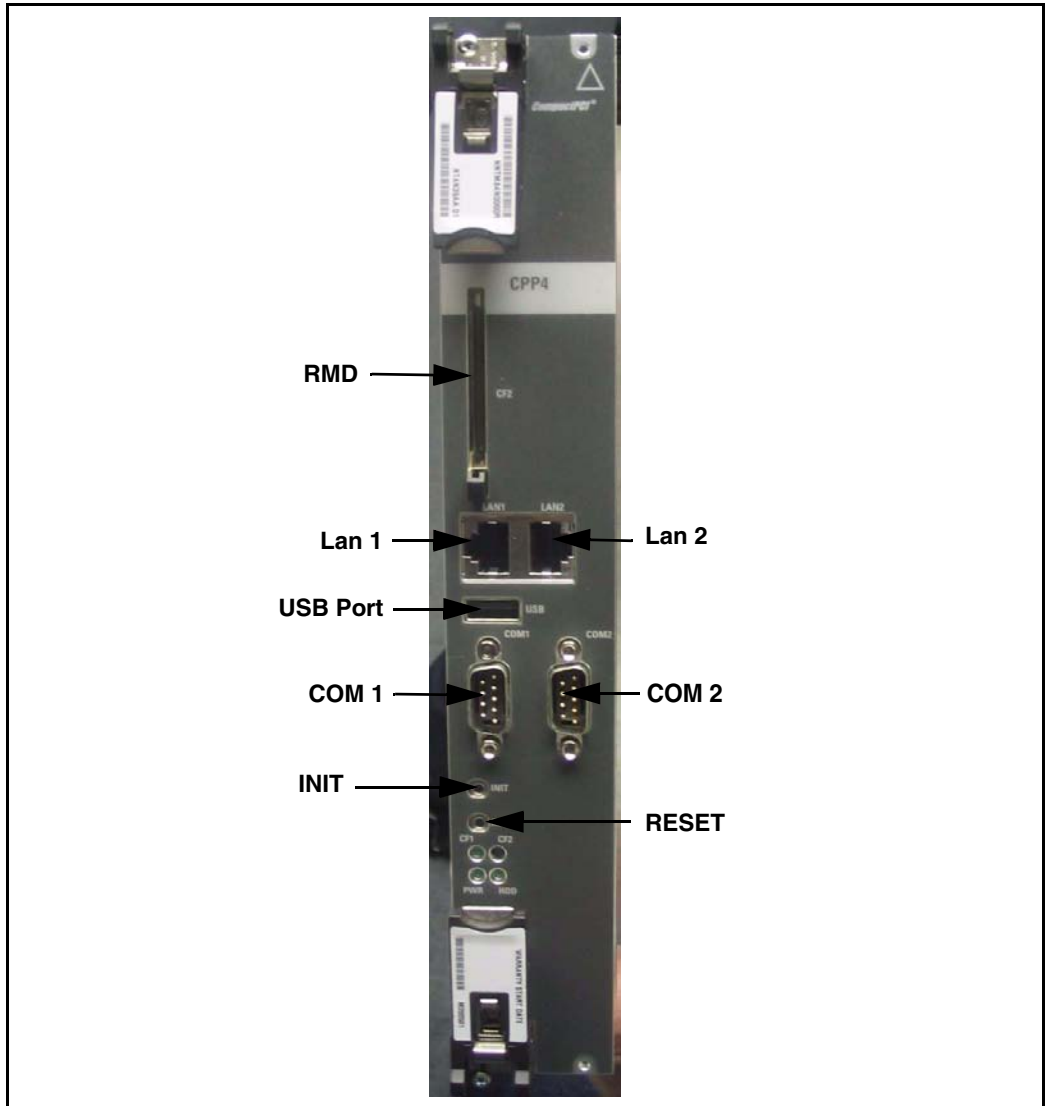
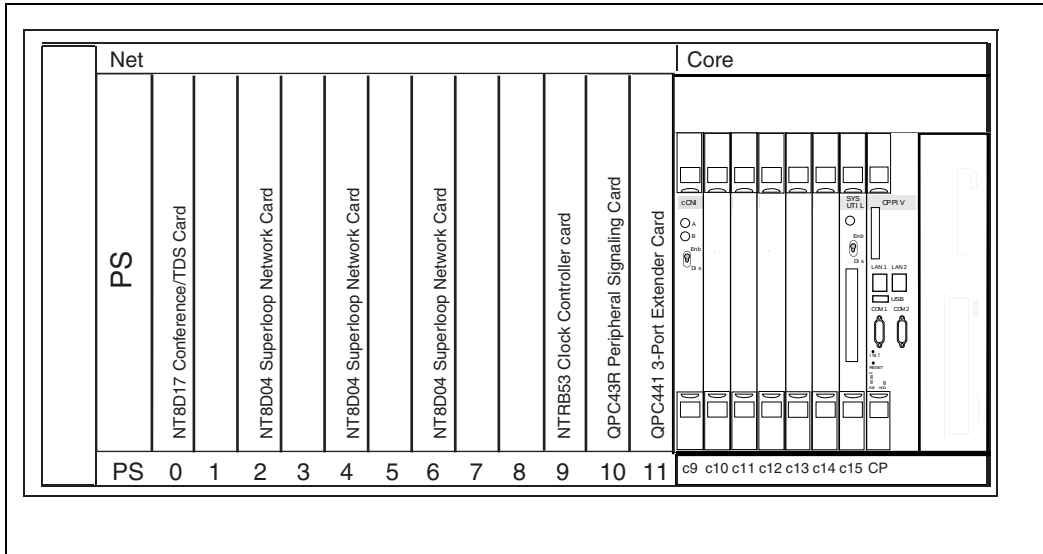


Figure 13
CP PIV NT4N41 Core/Net Module



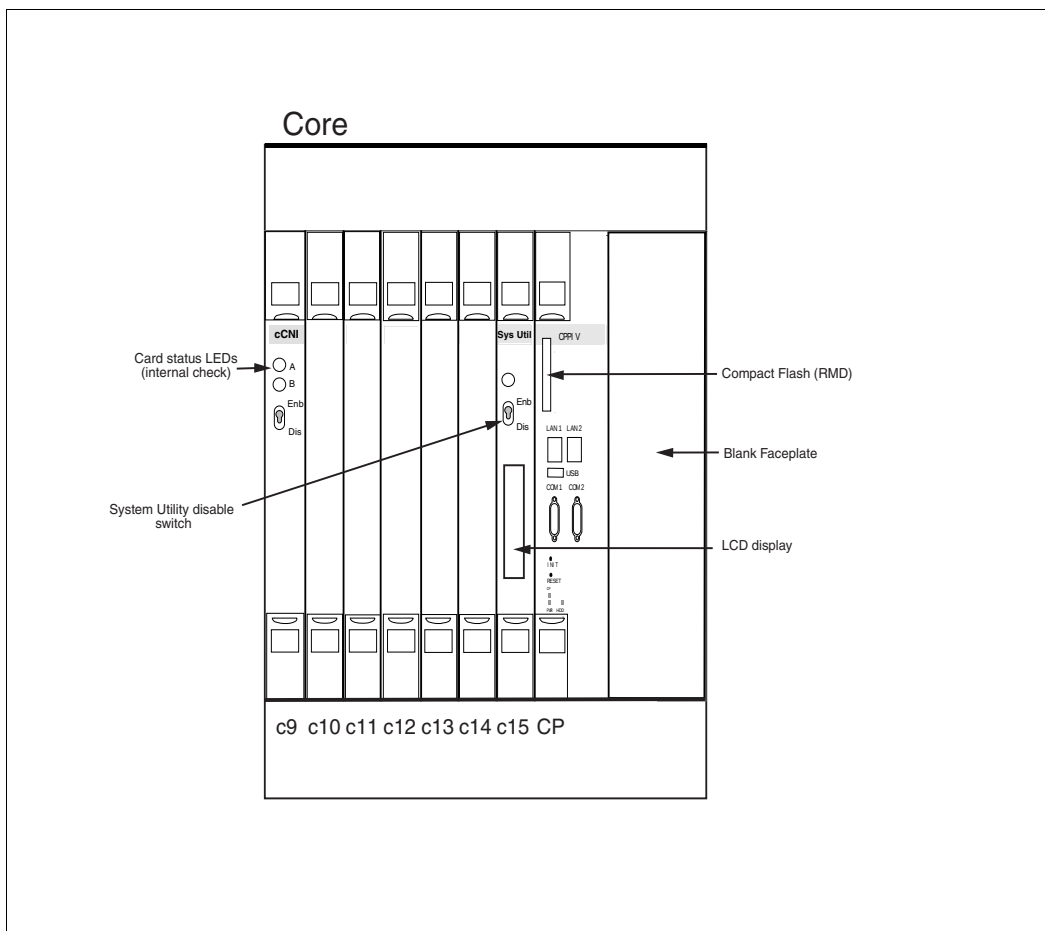
Verify CP PIV hardware

Verifying CP PIV card location

The NT4N39 CP PIV card is located in the Call Processor slot (see Figure 14 on [page 51](#)).

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

Figure 14
CP PIV Card location



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 the 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)

******** Exit program

End of Procedure

Procedure 7
Splitting the Cores

- 1 In 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.

End of Procedure

Remove Core 1 CP PII card and MMDU

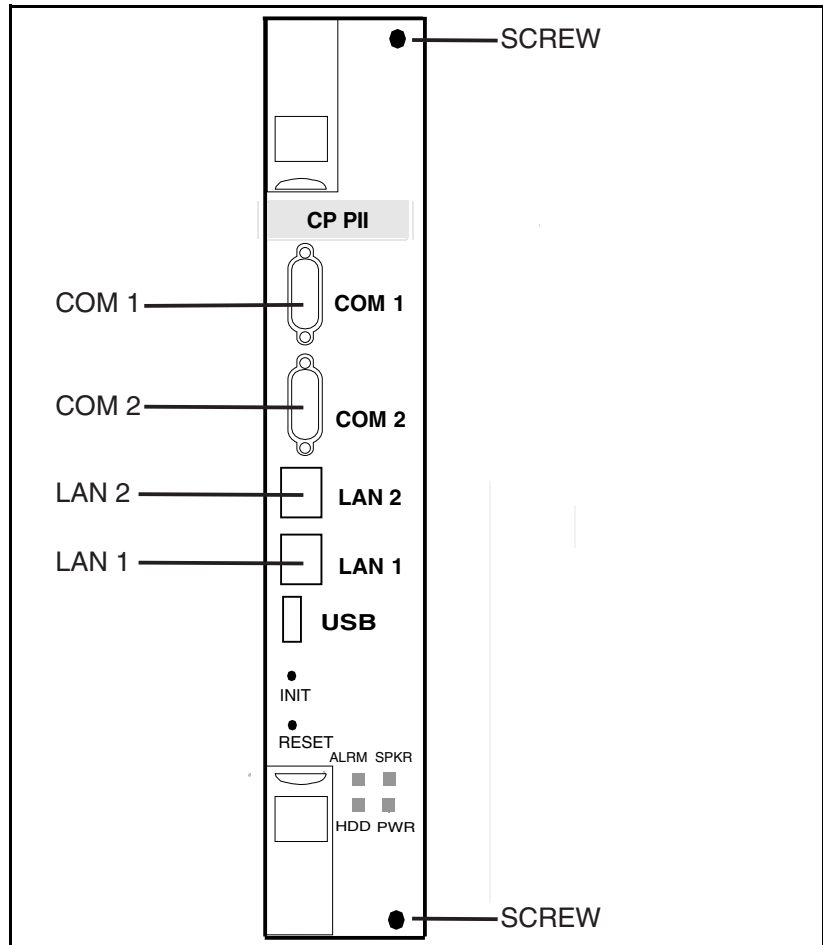
Procedure 8

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 15.

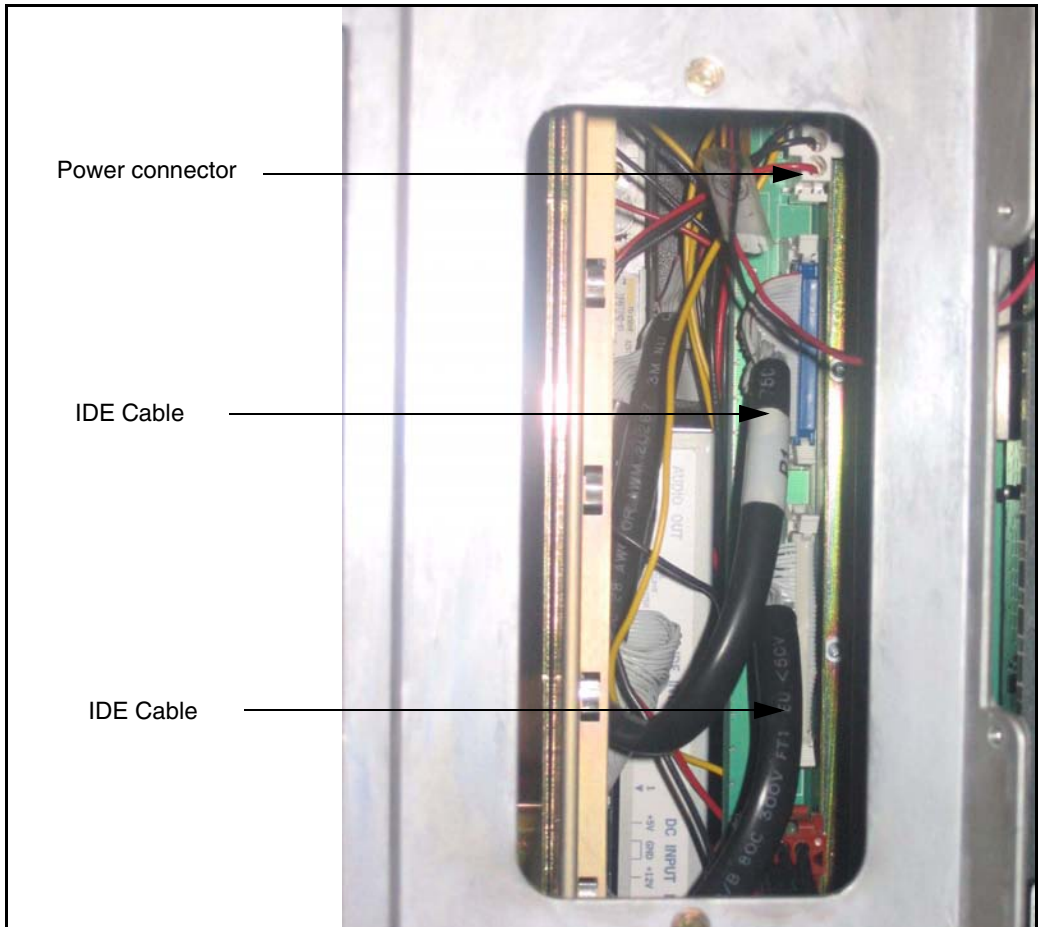
Figure 15

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 15 on [page 54](#).
- 3 Unscrew and unlatch the Core 1 CP PII card. See Figure 15 on [page 54](#).
- 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 16.

Figure 16
NT4N46 Core/Net module



- 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 16 on [page 55](#).
- 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

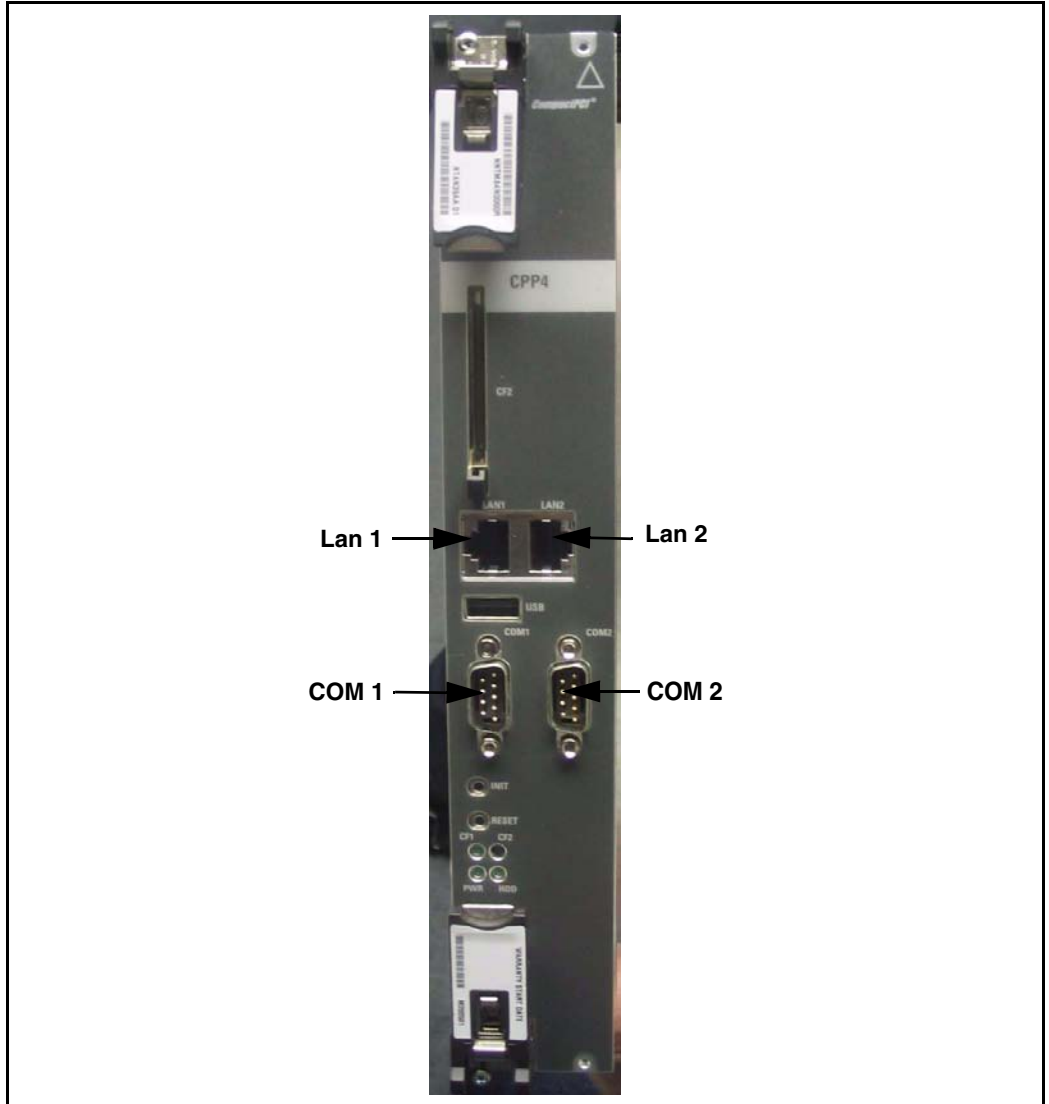
Install Core 1 CP PIV card and blank faceplate

Procedure 9

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 17 on [page 57](#).
- 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 17
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 7.0 upgrade

Upgrading the software on Core 1

Procedure 10 outlines the steps involved in installing CS 1000 Release 7.0 for the CP PIV processor.

Procedure 10 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...
```

[illegible]

- 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.
 - 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 [page 68](#).

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

Verify the upgraded database

Procedure 11

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

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 [page 29](#). 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.

Access LD 22 and print Target peripheral software version.

LD 22	Load program
REQ	PRT
TYPE	PSWV
ISSP	Print System, DepList, and Patch information
SLT	Print System Limits
TID	Print the Tape ID
****	Exit program

Reconfigure I/O ports and call registers

Procedure 12

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). 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

- 2 Print the Configuration Record to confirm the changes made above:

LD 22 Load program

REQ PRT Set the print Option

TYPE CFN Print the configuration

******** Exit program

End of Procedure

Connect LAN 1

Attach the LAN 1 cable to the CP PIV faceplate connector on Core 1.



At this point, all applications must be shut down (CallPilot, Symposium, and so on). LAN 1 and LAN 2 cables are now connected.

Switch call processing to Core/Net 1



CAUTION — Service Interruption

Service Interruption

The following procedure interrupts call processing. All active calls are lost.

Procedure 13 Switching call processing

- 1 Enter LD 135 on Core/Net 0 and issue the CUTOVR command. Call processing switches to Core/Net 1 and service is interrupted.

LD 135

CUTOVR Transfer call processing from active Core/Net to standby Core/Net

**** Exit program

- 2 After Core/Net 1 initializes. log in to Core/Net 1 and verify that the cutover was successful and that all hardware is operational. Perform acceptance testing as required.

End of Procedure

Test Core/Net 1

Procedure 14 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.

9 Check applications.

Call processing should be active on Core/Net 1.

End of Procedure

Upgrading Core 0

Procedure 15**Checking that Core 1 is active**

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

- 1 From Core 1, verify that Core 0 is inactive.

LD 135 Load program

STAT CPU Obtain the status of the CPUs

End of Procedure

Procedure 16
Hardware disable CNI cards

- 1 Hardware disable all CNI cards in Core 0.

End of Procedure

Remove Core 0 CP PII card and MMDU

Procedure 17
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 18 on [page 81](#).
- 2 Disconnect and label the COM 1 and COM 2 cables from the Core 0 CP PII card faceplate. See Figure 18 on [page 81](#).
- 3 Unscrew and unlatch the Core 0 CP PII card. See Figure 18 on [page 81](#).
- 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 19.

Figure 18
CP PII faceplate connections

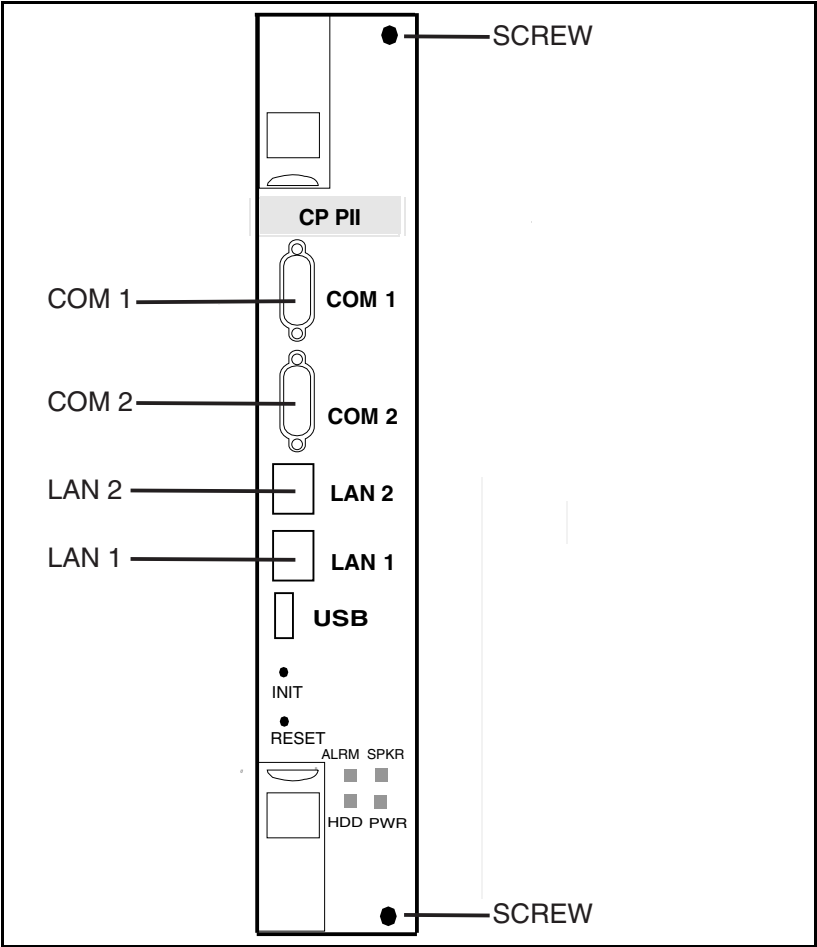
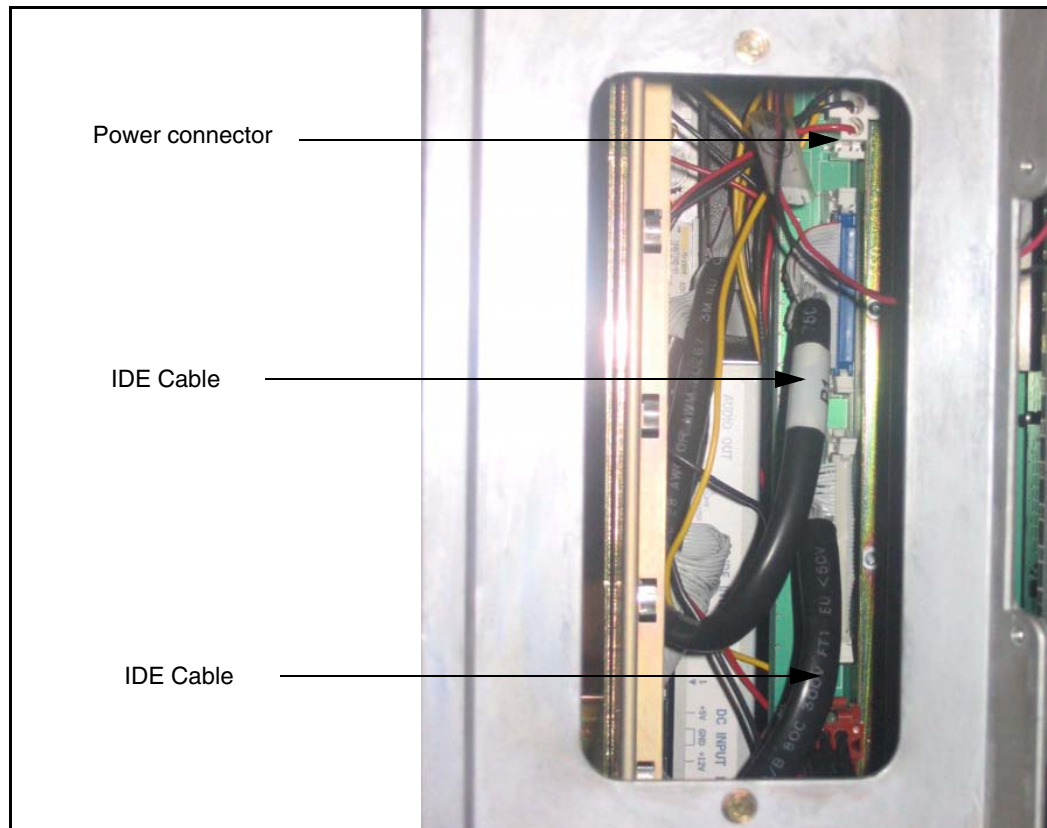


Figure 19
NT4N46 Core/Net module



- 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. See Figure 19 on [page 82](#).
- 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.

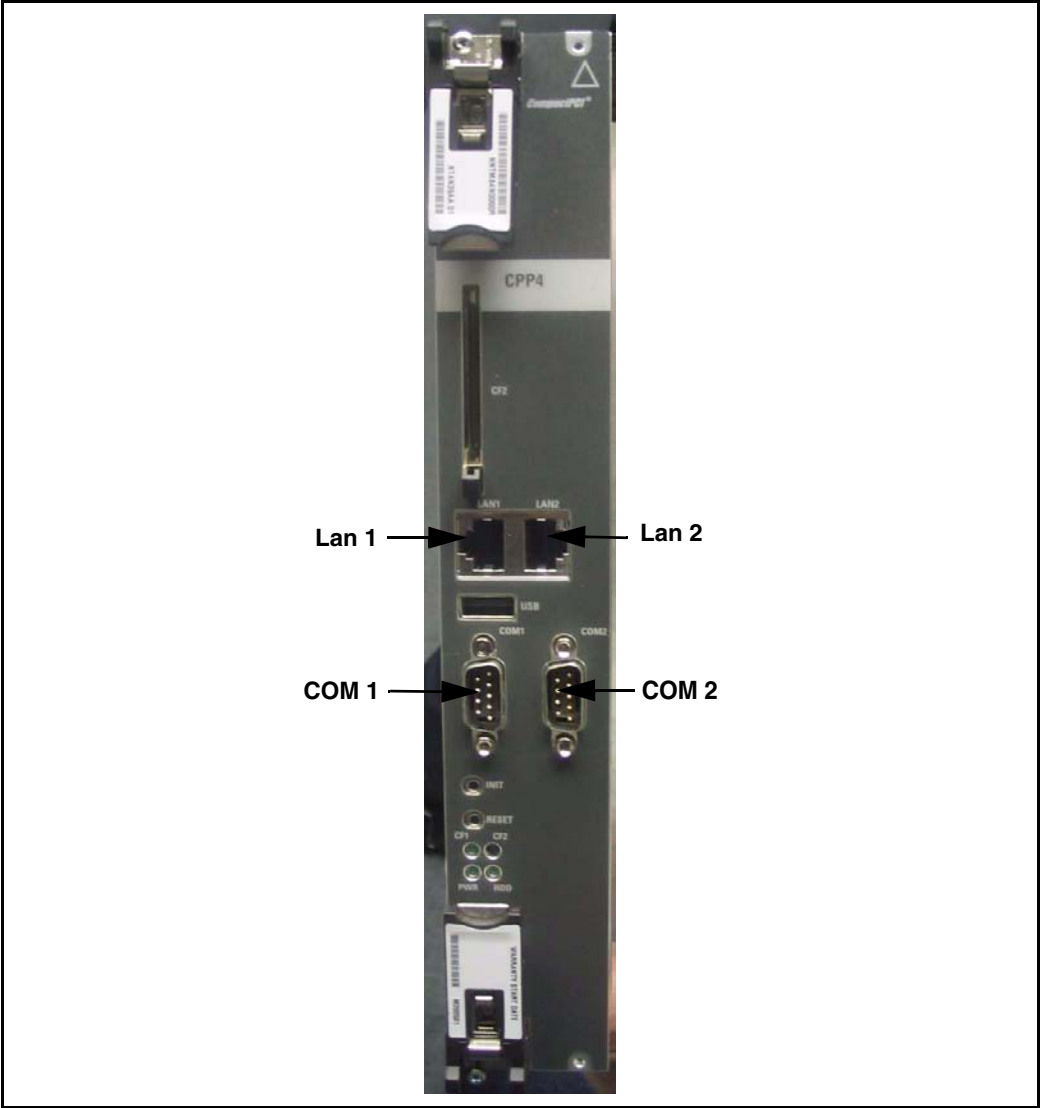
End of Procedure

Install Core 0 CP PIV card and blank faceplate

Procedure 18**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 20 on [page 84](#).

Figure 20
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

CS 1000 Release 7.0 upgrade

Upgrading the software on Core 0

Procedure 19 outlines the steps involved in installing CS 1000 Release 7.0 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...
```

[illegible]

- 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.

 - 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 [page 95](#).

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

Verify 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

- 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 1 is now active, clock 1 is active, FIJI 1 is active (if equipped), CNI is disabled in Core 0.

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 Enable CNI card in Core 0.
- 1 From CP 1, 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

- 2 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

The following is an example only.

```
.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
```

- 3 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

The following is an example only.

```
.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

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 will now operate in full redundant mode with Core/Net 1 active.



At this point, all applications can be restarted (CallPilot, Symposium, and so on).

End of Procedure

Completing the CP PIV upgrade

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

Testing the Cores

Procedure 22

Testing Core/Net 1

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. As a final step, call processing is then switched again to Core/Net 1.

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 <i>x</i>	To obtain the status of the clock controllers (<i>x</i> 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.

End of Procedure

Switching call processing

Procedure 23 Switching call processing

- 1 Enter LD 135 on Core/Net 1 and issue the SCPU command. Call processing switches to Core/Net 0.

LD 135

SCPU Transfer call processing from active Core/Net to standby Core/Net

**** Exit program

- 2 After Core/Net 0 initializes, log in to Core/Net 0 and verify that the cutover was successful and that all hardware is operational. Perform acceptance testing as required.



Core/Net 0 is now the active call processor.

End of Procedure

Procedure 24
Testing Core/Net 0

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 <i>x</i>	Obtain the status of the clock controllers (<i>x</i> 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.

End of Procedure

Perform 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 — Service Interruption

Loss of Data

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

The Meridian 1 Option 61C CP PII upgrade to Meridian 1 Option 61C CP PIV is complete.

Installing a Signaling Server

Contents

This chapter contains the following topics:

Introduction	116
Signaling Server task flow	116
Readiness checklist	119
Server card hardware installation	122
Connections	136
Installing the software	145

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

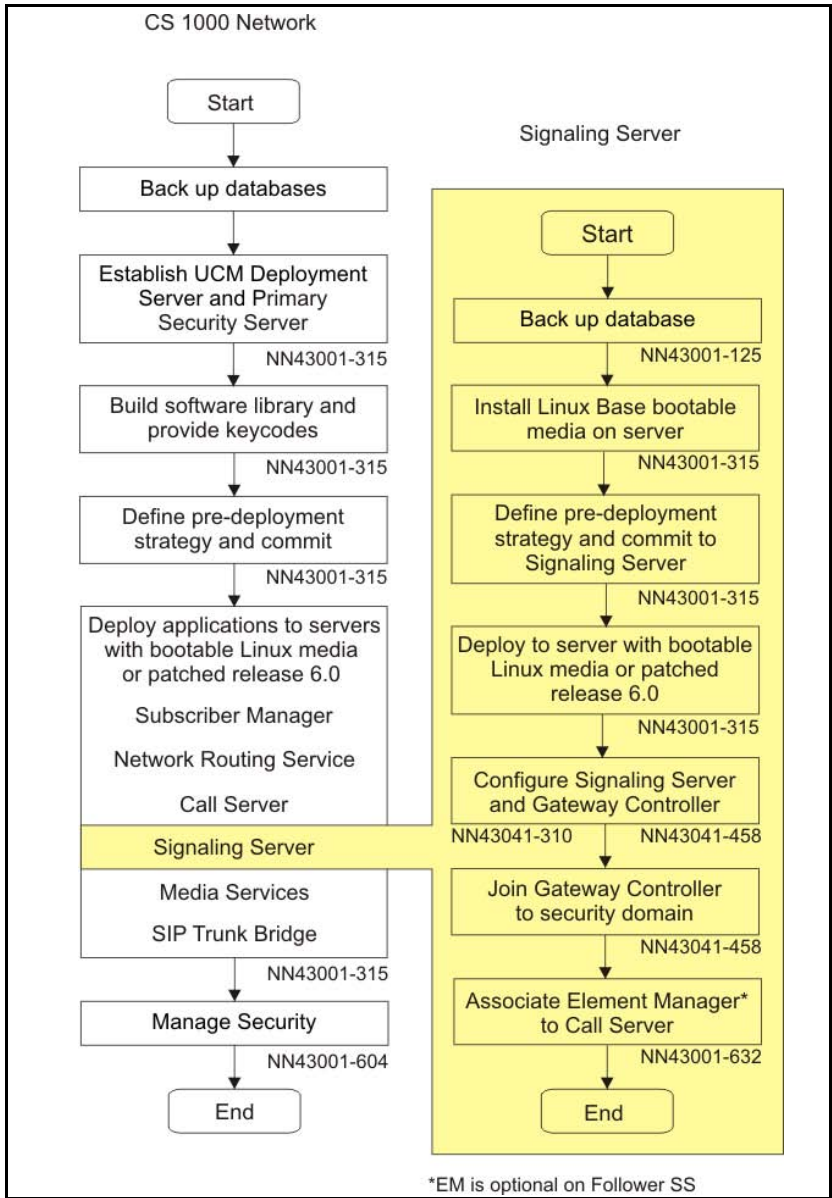
This section provides a high-level task flow for the installation or upgrade of a CS 1000 system. The task flow indicates the recommended sequence of events to follow when configuring a system and provides the NTP number that contains the detailed procedures required for the task.

For more information refer to the following NTPs, which are referenced in Figure 21 on [page 118](#):

- *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)
- *Element Manager: System Administration* (NN43001-632)

- *Signaling Server IP Line Applications Fundamentals* (NN3001-125)

Figure 21
Signaling Server task flow



Readiness checklist

Before installing Signaling Server in a Communication Server 1000 system, complete the following checklist.

**WARNING**

Do not modify or use a supplied AC-power cord if it is not the exact type required in the region where you install and use the Signaling Server. Be sure to replace the cord with the correct type.

Table 5
Readiness checklist (Part 1 of 2)

Have you:	
Read all safety instructions in <i>Communication Server 1000M and Meridian 1 Large System Installation and Commissioning</i> (NN43021-310), as appropriate for your Communication Server 1000 system?	
Do you have all equipment and peripherals?	
For COTS servers: • installation accessories for rack-mounting the server • AC-power cord • a DTE-DTE null modem cable (supplied) • Linux Signaling Server software DVD for COTS servers For a Server cards (NTDW66 CP PM, and NTDW54 CP DC) • (CP PM only) NTM427CBE6: CP PM Signaling Server Linux Upgrade kit, which includes — NTDW6102E5: CP PM Signaling Server Hard Drive kit (Linux OS preloaded) — NTM42703: 2 GB Compact Flash (CF) with Linux software, 2 GB blank CF — NTDW6109E6: 1 GB DDR SO-DIMM memory upgrade • NTAK19ECE6: CP PM Signaling Server 2 port SDI Cable assembly kit • NTDW69AAE5: CP PM Signaling Server Large System Cabling kit • N0106745: CP PM Signaling Large System Cabling • a DTE-DTE null modem cable (supplied) Note: Save the packaging container and packing materials in case you must ship the product.	
Make sure the area meets all environmental requirements?	
Check for all power requirements?	
Verify the CP PM or COTS hardware meets all required specifications (2GB ram, 40GB hard drive, NTDW66AAE6 CP PM BIOS version 18 or higher)?	

Table 5
Readiness checklist (Part 2 of 2)

Have you:	
Check for correct grounding facilities?	
Obtained the following • screwdrivers • an ECOS 1023 POW-R-MATE or similar type of multimeter • appropriate cable terminating tools • a computer (maintenance terminal) to connect directly to the Signaling Server, with — teletype terminal (ANSI-W emulation, serial port, 9600 bps) — a Web browser for Element Manager (configure cache settings to check for new Web pages every time the browser is invoked, and to empty the cache when the browser is closed)	
Prepared the network data as suggested in <i>Converging the Data Network with VoIP</i> (NN43001-260) or <i>Communication Server 1000M and Meridian 1 Large System Planning and Engineering</i> (NN43021-220), as appropriate for your Communication Server 1000 system?	
Read all safety instructions in <i>Communication Server 1000M and Meridian 1 Large System Installation and Commissioning</i> (NN43021-310), as appropriate for your Communication Server 1000 system?	

Server card hardware installation

This section contains instructions to install a Server card in a Communication Server 1000M system. The Communication Server 1000M system supports the NTDW66 CP PM card and the NTDW54 CP DC card.

This section contains only general instructions to install the CP PM circuit card in Communication Server 1000M systems. For more detailed installation instructions, see *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

IMPORTANT!

There are several switches on CP PM circuit cards. All switch settings must be factory defaults except for the switch labelled S5. Switch S5 must be in position 2 to support the internal hard drive used on the CP PM Signaling Server circuit card.

Installation in a Communication Server 1000M system

For CP PM cards, the first task that you must perform is to install the hard drive shipped with the server or Linux upgrade kit. For instructions, see *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

The NTDW66 CP PM card and NTDW54 CP DC card are double wide faceplate cards designed for use in a CS 1000M Universal Equipment Module (UEM). You can insert the double wide CP PM or CP DC card into any slot of a CS 1000M UEM except slot 7. The External Peripheral Equipment Controller (XPEC) is next to slot 7 and prevents the double wide faceplate from seating into slot 7.

The next task that you must perform is to install ELAN and TLAN Ethernet ports on the back of the Communication Server 1000M UEM. These ports are used to connect your Server to the ELAN and TLAN Ethernet subnets of your Communication Server 1000M system.

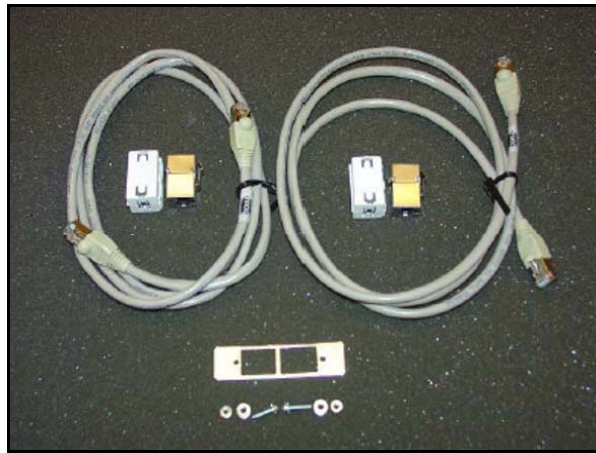
Use the following procedure to install ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM.

IMPORTANT!

Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M Universal Equipment Module (UEM) disrupts service. You must turn off power to the shelf during this procedure.

Procedure 26**Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM**

- 1 Obtain the special cabling kit (NTDW69AAE5). The NTDW69AAE5 cabling kit includes the items shown in Figure 22.

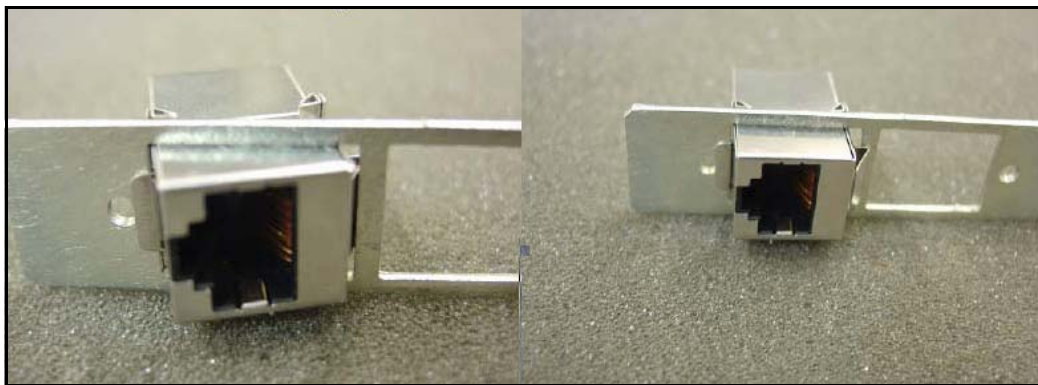
Figure 22**NTDW69AAE5 Cabling Kit contents**

The following is a list of items in the NTDW69AAE5 cabling kit:

- two RJ-45 CAT5 Ethernet patch cables
- two Ethernet port couplers
- one Ethernet port adapter plate
- two screws
- two nuts
- two washers
- two ferrite beads

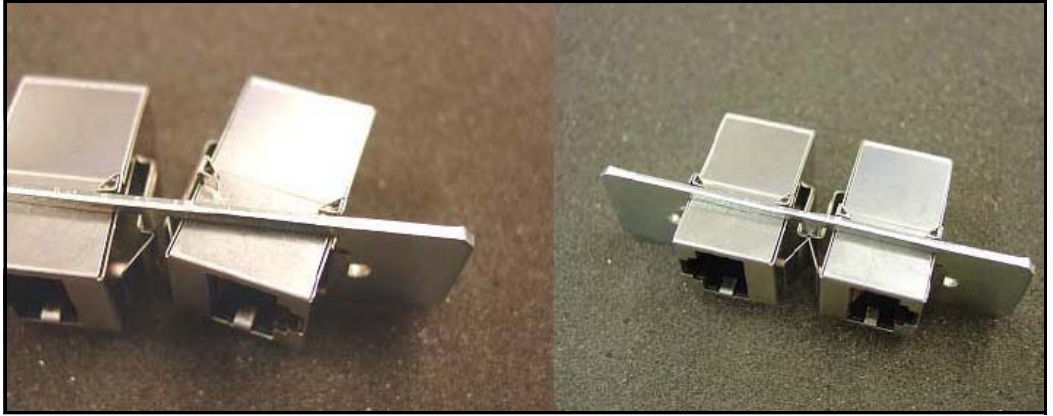
2 Insert an Ethernet port coupler into the adapter plate. See Figure 23.

Figure 23
One Ethernet port coupler in adapter plate



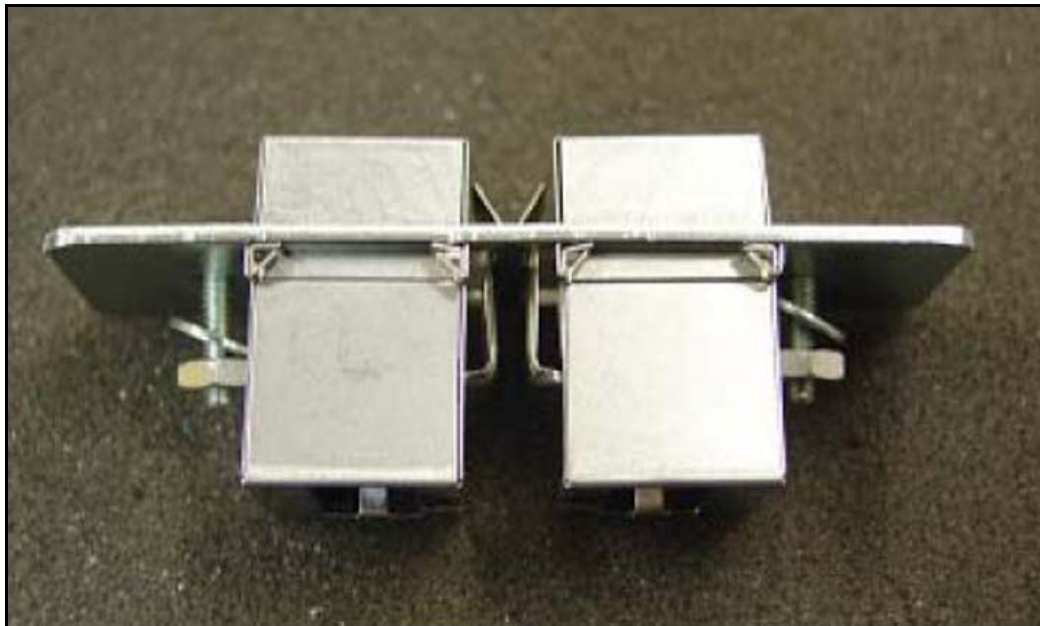
3 Insert the other Ethernet port coupler into the adapter plate. See Figure 24 on page 125.

Figure 24
Two Ethernet port couplers in adapter plate



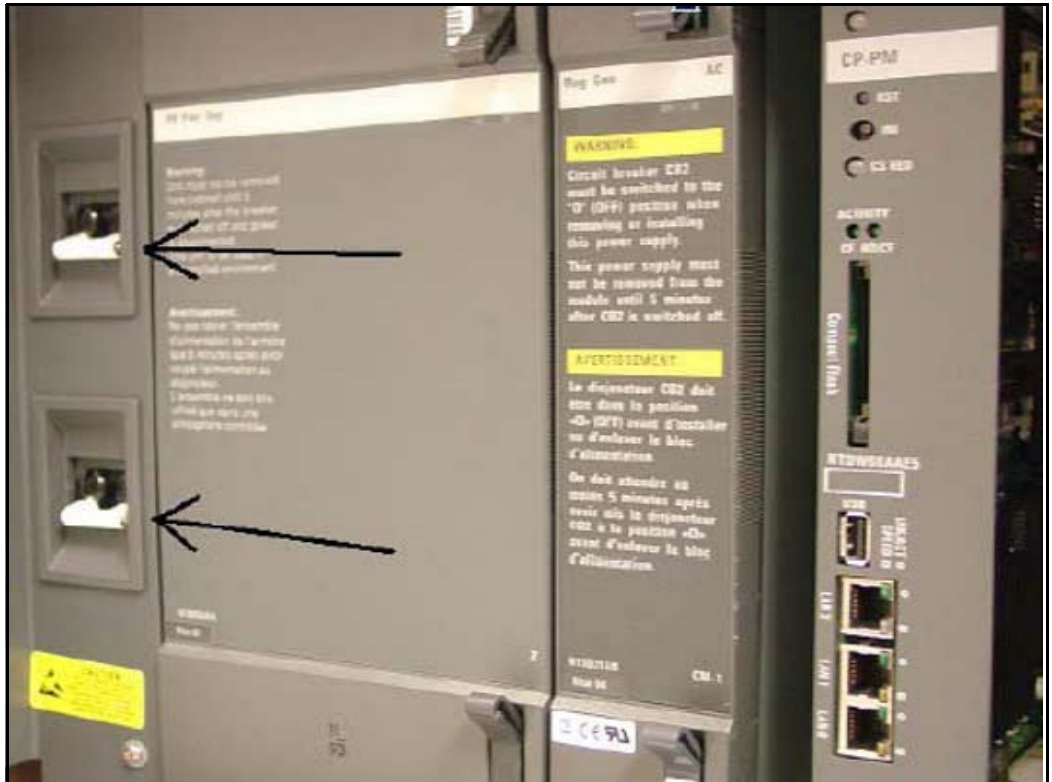
- 4 Loosely attach screws, washers, and nuts to the Ethernet port adapter plate. See Figure 25.

Figure 25
One Ethernet port coupler in adapter plate



- 5 Switch off the UEM power supplies. See Figure 26.

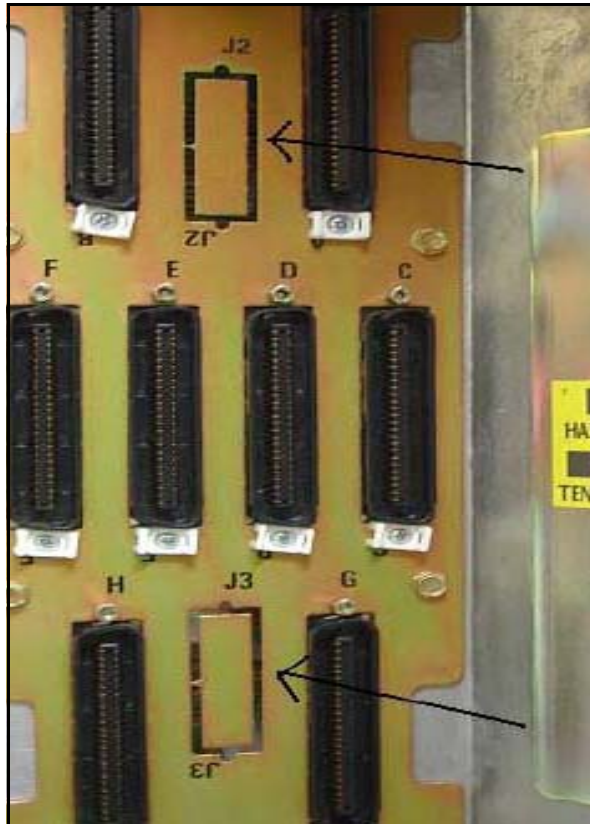
Figure 26
Shut down UEM power supplies



- 6 Select one of the J2-J5 knock-out plates on the back of the UEM. See Figure 27.

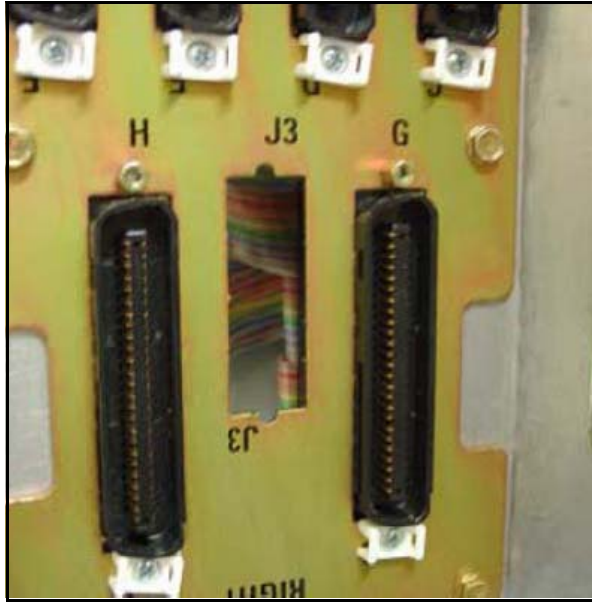
Note: For DC powered systems, turn off the breakers in the pedestal not on the shelf.

Figure 27
J2-J5 plates on back panel of UEM



- 7 Knock out the metal plate from the selected J2-J5 location to provide a hole through which the Ethernet patch cables are routed and to which the Ethernet port adapter plate is attached. See Figure 28.

Figure 28
Selected J2-J5 plate on back panel of UEM



- 8** Establish an ELAN port on the back panel of the UEM.
 - a.** Insert the end of one of the RJ-45 CAT5 Ethernet patch cables (supplied) into the ELAN network interface (ELAN port) on the Server faceplate.
 - b.** Route the Ethernet patch cable through the hole you made in the back panel of the UEM.
 - c.** Plug the other end of the Ethernet patch cable into one of the Ethernet port couplers mounted in the Ethernet port adapter plate.
 - d.** Label the Ethernet port coupler as ELAN.

See Figure 29 and Figure 30.

Figure 29
ELAN connection on the CP PM faceplate



Figure 30
ELAN connection on Ethernet port coupler



- 9** Connect the server to the TLAN subnet.
 - a.** Insert one end of the remaining RJ-45 CAT5 Ethernet patch cable (supplied) into the TLAN network interface (TLAN port) on the Server faceplate.
 - b.** Route the Ethernet patch cable through the hole you made in the back panel of the UEM.
 - c.** Plug the other end of the Ethernet patch cable into the remaining Ethernet port coupler mounted in the Ethernet port adapter plate.
 - d.** Label the Ethernet port coupler as TLAN.

See Figure 31 and Figure 32.

Figure 31
TLAN connection on the CP PM faceplate



Figure 32
TLAN connection on Ethernet port coupler



- 10** Fit the Ethernet port adapter plate into the hole on the back of the UEM and tighten the screws. See Figure 33.

Figure 33
Installed Ethernet port adapter plate



11 Attach the ferrite beads to the Ethernet patch cables. See Figure 34.

Figure 34
Attached Ethernet patch cable ferrite beads



End of Procedure

Connections

This section contains connection information.

Connection checklist



WARNING

Do not modify or use a supplied AC power cord if it is not the correct type required for the host region.

IMPORTANT!

Nortel CP PM servers are powered through the backplane of the Media Gateway, Universal Equipment Module, or 11C cabinet into which they are installed and do not require a power cord.

Before connecting a Server, ensure that you have the following materials on-hand.

Table 6
Connections checklist

Do you have:	
A serial cable (DTE-DTE null modem cable) to connect the server to a maintenance terminal? The IBM x3350 requires a NTRX26NPE6 9 pin female to 9 pin female null modem cable.	
NTAK19EC cable for each CP PM or CP DC card. This cable adapts the 50-pin MDF connector on the back of the shelf of the Media Gateway, Universal Equipment Module, or 11C cabinet to a 25-pin DB connector.	
Shielded CAT5 cables (or better) to connect the server to the ELAN and TLAN subnets?	

Connecting a Signaling Server

This section contains instructions to connect a Server to the ELAN and TLAN subnet of a CS 1000M system. It also contains instructions to connect a maintenance terminal to the Server.

A Server card is inserted into a slot of a Universal Equipment Module (UEM). UEMs do not have built-in ELAN and TLAN Ethernet ports. You must install Ethernet ports on the back of the UEM to enable the Server to connect to the ELAN and TLAN subnets of your Communication Server 1000 system (see Procedure 26: "Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM" on [page 123](#).)

Perform Procedure 27 to connect a Server card to the ELAN and TLAN subnets of a Communication Server 1000M system.

IMPORTANT!

Connecting a Server card to the ELAN and TLAN subnets of a CS 1000M system causes a service disruption.

Procedure 27

Connecting a Server card to the ELAN and TLAN subnets of a Communication Server 1000M system

- 1** Insert the end of an RJ-45 CAT5 Ethernet cable (not supplied) into the ELAN network interface port (ELAN port) on the back of the Communication Server 1000M UEM. (You installed this ELAN port at the back of the UEM when you installed the Signaling Server in the UEM. For more information, see Procedure 26: "Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM" on [page 123](#).)
- 2** Insert the other end of the RJ-45 CAT5 Ethernet cable into an Ethernet port on the ELAN Ethernet switch.
- 3** Insert the end of another RJ-45 CAT5 Ethernet cable (not supplied) into the TLAN network interface port (TLAN port) on the back of the Communication Server 1000M UEM. (You installed this TLAN port at the back of the UEM when you installed the Signaling Server in the UEM. For more information, see Procedure 26: "Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM" on [page 123](#).)

- 4 Insert the other end of the RJ-45 CAT5 Ethernet cable into an Ethernet port on the TLAN Ethernet switch.

End of Procedure

Verify or change the baud rate

To verify or change the baud rate on a Nortel CP PM Signaling Server, see *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

Connecting an IBM COTS server

In geographic regions that are susceptible to electrical storms, Nortel recommends that you plug the IBM COTS server into an AC surge suppressor.

Figure 35 shows the rear view of the IBM X306m server.

Figure 35
IBM X306m (rear view)

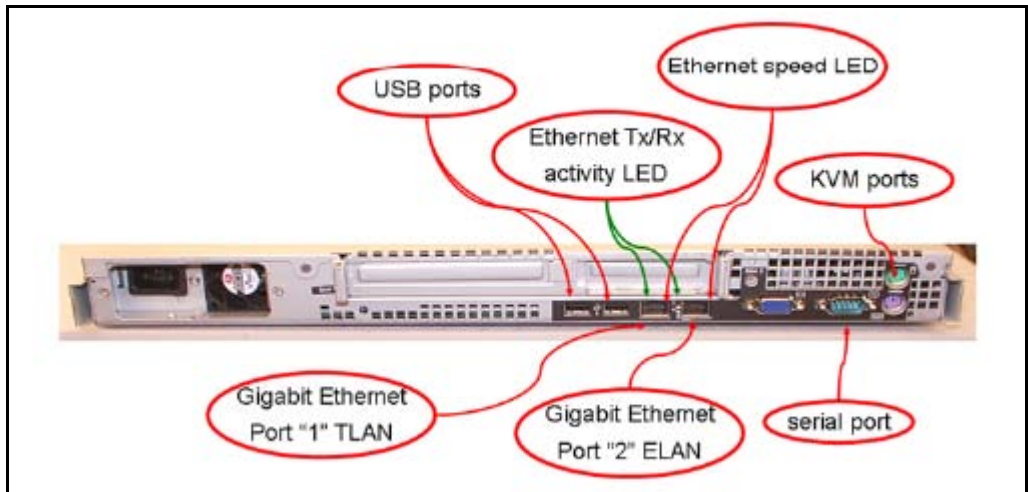
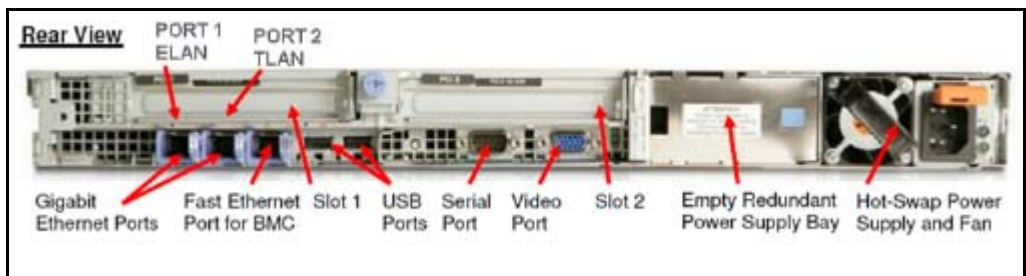


Figure 36 shows the rear view of the IBM x3350 server.

Figure 36
IBM x3350 (rear view)



Note: When you perform Procedure 28, “Connecting an IBM COTS server,” on [page 140](#), see Figure 35 or Figure 36.

Procedure 28
Connecting an IBM COTS server

- 1 Connect the IBM server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into the TLAN Ethernet port on the back of the server. Insert the other end of the cable into the TLAN subnet of the Layer 2 switch.
 - 2 Connect the IBM server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into the ELAN Ethernet port on the back of the server. Insert the other end of the cable into the ELAN subnet of the Layer 2 switch.
 - 3 Connect a DTE–DTE null modem serial cable from the serial port on the back of the server to the serial port on a maintenance terminal. The IBM x3350 requires a NTRX26NPE6 9 pin female to 9 pin female null modem cable.
 - 4 Connect the IBM server power cord.
 - a. Check that the power cord is the type required in the region where you use the server. Do not modify or use the supplied AC power cord if it is not the correct type.
 - b. Attach the female end of the power cord to the mating AC power receptacle on the server back panel. Plug the male end of the AC power cord into the AC power source (wall outlet).
 - 5 Set the baud rate for the serial port on the server to 9600 b/ps. See *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- Note:** The IBM X306m Signaling Server ships with the serial port configured to 9600 b/ps.
- 6 Configure the connected maintenance terminal. See *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
 - 7 Press the Power switch.

Note: For more information about operating information, see the IBM User Guide on the CD-ROM shipped with your IBM server.

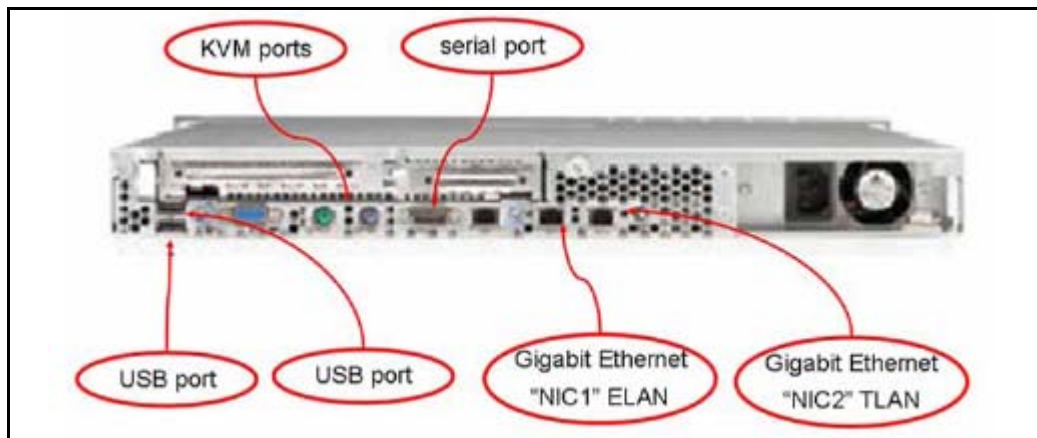
End of Procedure

Connecting an HP COTS server

In geographic regions that are susceptible to electrical storms, Nortel recommends that you plug the HP server into an AC surge suppressor.

Figure 37 shows the rear view of the HP DL320-G4 server.

Figure 37
HP DL320-G4 (rear view)



Note: When you perform Procedure 29, “Connecting an HP COTS server,” on [page 141](#), see Figure 37.

Procedure 29 **Connecting an HP COTS server**

- 1 Connect the HP server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into the TLAN Ethernet port on the back of the server.
- 2 Connect the HP server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into the ELAN Ethernet port on the back of the server.
- 3 Connect a DTE–DTE null modem serial cable from the Serial Port on the back of the server to a maintenance terminal.
- 4 Connect the HP server power cord.

- a. Check that the power cord is the type required in the region where you use the server. Do not modify or use the supplied AC power cord if it is not the correct type.
 - b. Attach the female end of the power cord to the mating AC power receptacle on the right-hand side of the server back panel. Plug the male end of the AC power cord into the AC power source (wall outlet).
- 5 Configure the COM1 serial port as the communication port for the connected maintenance terminal. Configure the COM 1 baud rate for the serial port on the server to 9600 b/ps. See *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- 6 Configure the connected maintenance terminal. See *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- 7 Press the Power switch.

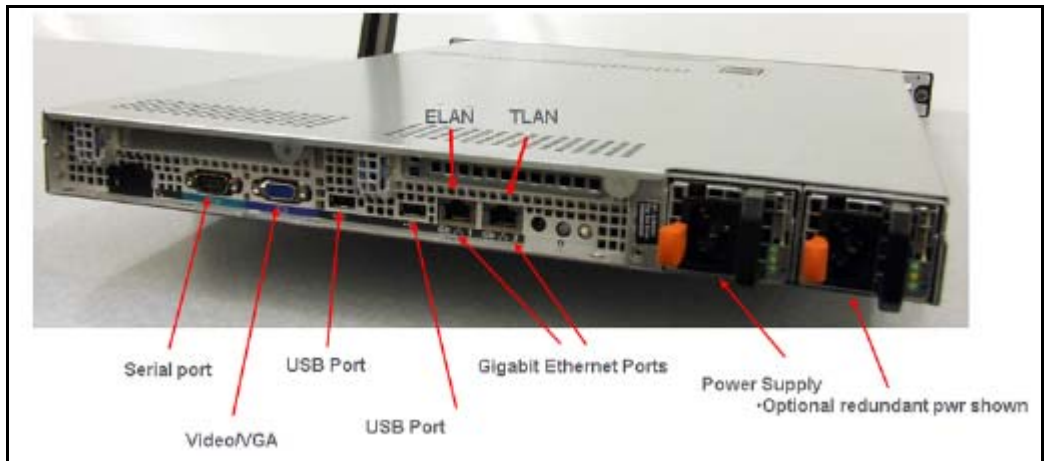
End of Procedure

Connecting a Dell COTS server

In geographic regions that are susceptible to electrical storms, Nortel recommends that you plug the Dell server into an AC surge suppressor.

Figure 38 shows the rear view of the Dell R300 server.

Figure 38
Dell R300 server (rear view)



Note: When you perform Procedure 30, “Connecting a Dell COTS server,” on [page 143](#), see Figure 38.

Procedure 30 **Connecting a Dell COTS server**

- 1 Connect the Dell server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into the TLAN Ethernet port on the back of the server. Insert the other end of the cable into the TLAN subnet of the Layer 2 switch.
- 2 Connect the Dell server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into the ELAN Ethernet port on the back of the server. Insert the other end of the cable into the ELAN subnet of the Layer 2 switch.
- 3 Connect a DTE–DTE null modem serial cable from the Serial Port on the back of the server to a maintenance terminal.
- 4 Connect the Dell server power cord.

- a. Check that the power cord is the type required in the region where you use the server. Do not modify or use the supplied AC power cord if it is not the correct type.
 - b. Attach the female end of the power cord to the mating AC power receptacle on the right-hand side of the server back panel. Plug the male end of the AC power cord into the AC power source (wall outlet).
- 5 Configure the COM1 serial port as the communication port for the connected maintenance terminal. Configure the COM 1 baud rate for the serial port on the server to 9600 b/ps. See *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- 6 Configure the connected maintenance terminal. See *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).
- 7 Press the Power switch.

End of Procedure

Maintenance terminal configuration parameters

To configure Signaling Server maintenance terminal configuration parameters, see the Maintenance chapter of *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

Installing the software

IMPORTANT!

The CP PM and COTS server are out of service during software installation.

Introduction

This section provides references you can use when you install CS 1000 Linux Base and application software a Server.

IMPORTANT!

CP PM, and COTS servers support no Signaling Server software prior to Communication Server 1000 Release 5.0 and support no SIP Line software prior to Communication Server 1000 Release 6.0.

Communication Server 1000 Release 7.0 Signaling Server and SIP Line software runs only on the Linux Base platform.

Before you begin

Before installing the software, you must perform the following

- Connect and power up the server. See “Connections” on [page 136](#).
- For CP PM cards, ensure that Switch S5 is in position 2 (to support the internal hard drive)
- Obtain the CS 1000 Release 7.0 Linux Base installation media.
- For CP PM cards, Nortel advises that you remove the wire on the CF card clip before you insert a CP PM card into the slot. The clip can fall open and cause an electrical short.

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 31 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 31

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 39 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 40
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...

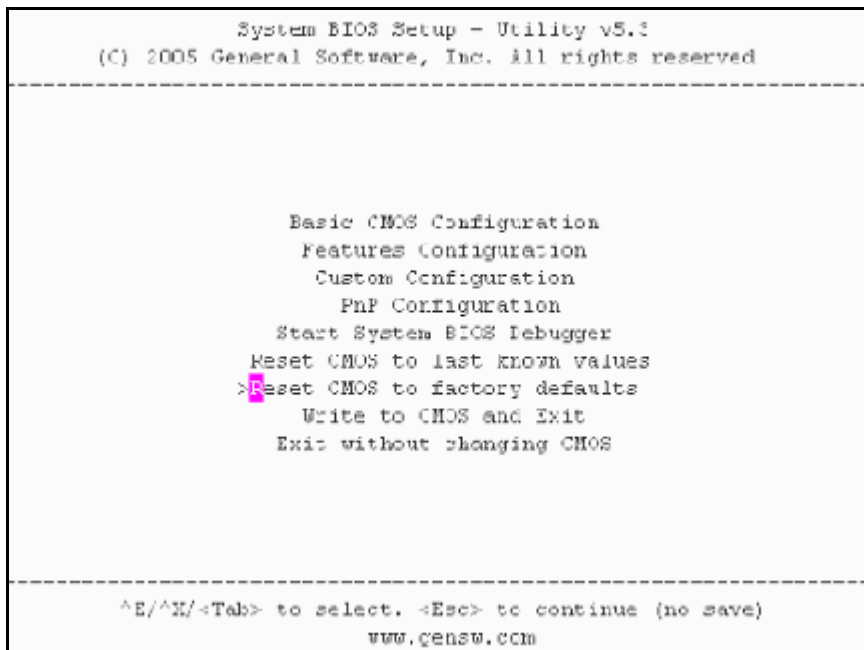
BIOS ROM upgrade is finished.

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.

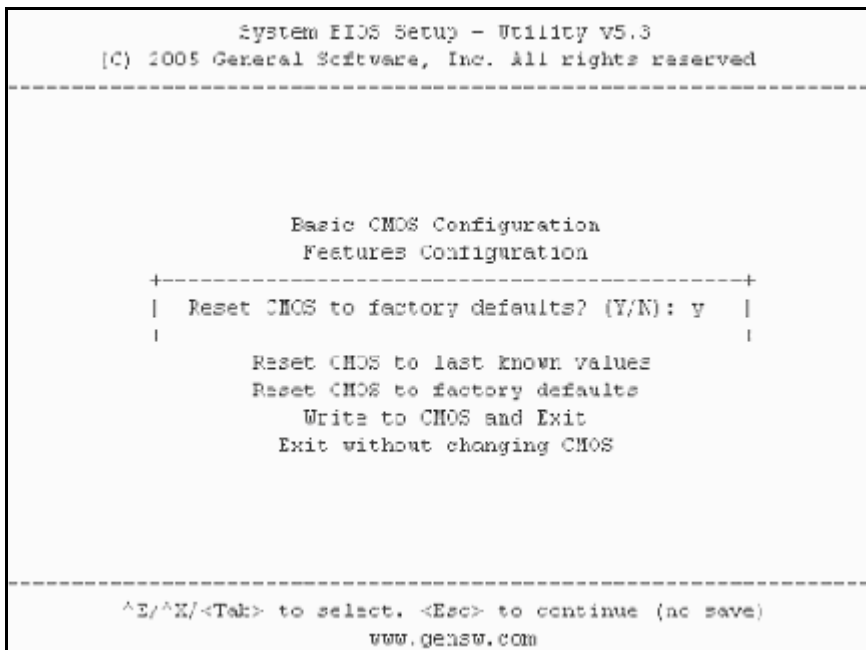
Note: If you miss the timing to press **Ctrl c** you must reboot the system and try again. The Linux Platform Base installation software will display a warning if you do not reset the CP PM BIOS to factory defaults.
- 9 Figure 41 appears. Select **Reset CMOS to factory defaults** from the menu.

Figure 41
CP PM BIOS setup



10 Figure 42 appears. Press **y** to reset CMOS to factory defaults.

Figure 42
CP PM BIOS reset



- 11 The system reboots. After initial boot Figure 39 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 Communication Server 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* (NN3001-125), 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:

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Upgrade details	154
Preupgrade checklists	155
Preconversion steps	158
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Quick reference	160

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 7
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 8
Upgrade details

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

Preupgrade checklists

Software Upgrade

Software audit

Table 9
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 10
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 11
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 12
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 12**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 13
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 14
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 14
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 with new software if required
LD 117 - PRT SEL 500 - Same as above

Postconversion checks

Table 15
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/CP (5 Groups Maximum)

Table 16
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 16
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 17**
Switch settings (Part 1 of 2)

Group	Shelf	P S	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 on off off on	off on on off on off off on
3	1	7	112-127	3 1	off on 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 17
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

Appendix B: Technical Assistance service

Contents

This chapter contains the following topics:

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

Table 18
Customer Technical Services (Part 2 of 2)

Location	Contact
Network Technical Support (NTS)	Asia Pacific Telephone: +61 28 870 8800 Australia Telephone: 1800NORTEL (1800 667835) or +61 2 8870 8800 E-mail: asia_support@nortel.com People's Republic of China Telephone: 800 810 5000 E-mail: chinatsc@nortel.com Japan Telephone: 010 6510 7770 E-mail: supportj@nortel.com Hong Kong Telephone: 800 96 4199 E-mail: chinatsc@nortel.com Taiwan Telephone: 0800 810 500 E-mail: chinatsc@nortel.com Indonesia Telephone: 0018 036 1004 Malaysia Telephone: 1 800 805 380 New Zealand Telephone: 0 800 449 716 Philippines Telephone: 1 800 1611 0063 or 632 917 4420 Singapore Telephone: 800 616 2004 South Korea Telephone: 0079 8611 2001 Thailand: 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. 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. System-related documentation errors that directly result in or lead to impaired service.
NS	Failure that does not affect service	Documentation errors. Software inconsistencies that do not affect service. Hardware diagnostic failures (not defined above) that cannot be corrected by resident skills. Test equipment failures for which a backup or manual alternative can be used. 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

61C CP PII to CS 1000M SG CP PIV Upgrade

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