
Nortel Communication Server 1000

Nortel Communication Server 1000 Release 7.0

Communication Server 1000M and Meridian 1

51C to CS 1000M SG CP PIV Upgrade

Document Number: NN43021-459

Document Release: Standard 04.02

Date: June 2010

Copyright © 2010 Nortel Networks. All rights reserved.

LEGAL NOTICE

While the information in this document is believed to be accurate and reliable, except as otherwise expressly agreed to in writing NORTEL PROVIDES THIS DOCUMENT "AS IS" WITHOUT WARRANTY OR CONDITION OF ANY KIND, EITHER EXPRESS OR IMPLIED. The information and/or products described in this document are subject to change without notice.

Nortel, the Nortel logo, the Globemark, SL-1, Meridian 1, and Succession are trademarks of Nortel Networks. All other trademarks are the property of their respective owners.

Contents

New in this release	7
Hardware	7
Other	7
How to get help	11
Finding the latest updates on the Nortel web site	11
Getting help from the Nortel Web site	11
Getting help over the telephone from a Nortel Solutions Center	12
Getting help from a specialist by using an Express Routing Code	12
Getting help through a Nortel distributor or reseller	12
System information	13
Subject	13
Applicable systems	14
Intended audience	15
Conventions	15
NTP feedback	16
Related information	17
Introduction	21
Contents	21
Meridian 1 Option 51C upgrade to Meridian 1 CS 1000M SG CP PIV	21

Preparing and planning for the upgrade	23
Contents	23
Introduction	23
Planning	25
Communication Server 1000 task flow	26
Upgrade checklists	28
Pre-upgrade tasks	28
Identifying the proper procedure	29
Connect a terminal	29
Check the Core ID switches	30
Print site data	32
Perform a template audit	35
Back up the database (data dump and ABKO)	36
Making the RMD bootable	41
Transfer the database from floppy disk to CF (customer database media converter tool)	44
Identify two unique IP addresses	50
Performing the upgrade	53
Contents	53
Introduction	53
Review upgrade requirements	57
Install Core 1 hardware	62
Install Core 0 hardware	92
Making the system redundant	133
Completing the CP PIV upgrade	137
Installing a Signaling Server	147
Contents	147
Introduction	147
Signaling Server task flow	148

Readiness checklist	150
Server card hardware installation	152
Connections	166
Installing the software	175
Appendix A: Upgrade checklists	183
Contents	183
Introduction	183
Site details	184
Upgrade details	184
Pre-upgrade checklists	185
Pre-conversion steps	188
Post-conversion checks	190
Quick reference	190
Appendix B: Technical Assistance service	195
Contents	195
Nortel Technical Assistance Centers	195
Services available	198
Requesting assistance	201
Index	203

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 for Communications Server 1000 Release 6.0.

November 2007

Standard 02.01. This document is issued for Communication Server 1000 Release 5.5.

July 2007

Standard 01.03. This document is upissued with corrections for invoking the install menu during CP PIV and CP P4 upgrades.

June 2007

Standard 01.02. This document is upissued with corrections to links for software upgrades.

May 2007

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

May 2006

Standard 5.00. This document is upissued with corrections 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)*.

How to get help

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

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.

Getting help from the Nortel Web site

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

www.nortel.com/support

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

- download software, documentation, and product bulletins
- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues

- sign up for automatic notification of new software and documentation for Nortel equipment
- open and manage technical support cases

Getting help over the telephone from a Nortel Solutions Center

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

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

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

www.nortel.com/callus

Getting help from a specialist by using an Express Routing Code

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

www.nortel.com/erc

Getting help through a Nortel distributor or reseller

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

System information

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

Subject

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

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



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 51C
- Meridian 1 PBX 61C
- Meridian 1 PBX 81C

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

System migration

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

Table 1
Meridian 1 systems to CS 1000M systems

This Meridian 1 system...	Maps to this CS 1000M system
Meridian 1 PBX 51C	CS 1000M Single Group
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 detailed Signaling Server configuration information see Appendix : “Installing a Signaling Server” on [page 147](#).

Upgrade paths

This document contains information about the following Large System upgrades:

- Meridian 1 Options 51C, 61C, 81C, 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)
 - IBM 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.

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.

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

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

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



CAUTION — Data Loss

Read “General software conversion information” in *CS 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458) before performing any operations.

It contains information vital to the conversion process.

NTPs

The following NTPs are referenced in this document:

- *Product Compatibility* (NN43001-256)
- *Converging the Data Network with VoIP* (NN43001-260)
- *Circuit Card: Description and Installation* (NN43001-311)
- *Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)
- *IP Peer Networking: Installation and Commissioning* (NN43001-313)
- *Features and Services* (NN43001-106)
- *Software Input/Output: Administration* (NN43001-611)
- *Element Manager: System Administration* (NN43001-632)
- *IP Trunk: Description, Installation, and Operation* (NN43001-563)
- *Signaling Server IP Line Applications Fundamentals* (NN43001-125)
- *ISDN Basic Rate Interface: Features* (NN43001-580)
- *Software Input/Output: Maintenance* (NN43001-711)
- *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (NN43021-220)
- *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310)
- *Communication Server 1000M and Meridian 1: Large System Maintenance* (NN43021-700)
- *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310)

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 195](#).

Introduction

Contents

This chapter contains the following topic:

[Meridian 1 Option 51C upgrade to Meridian 1 CS 1000M SG CP PIV](#) 21

Meridian 1 Option 51C upgrade to Meridian 1 CS 1000M SG CP PIV

Complete this procedure when upgrading from Meridian Option 51C systems to Meridian 1 CS 1000M SG CP PIV.

This procedure is for a stacked or side-by-side configuration. This procedure requires installing a new pedestal with an NT4N41 Core/Net module next to or above the existing shelf.

Preparing and planning for the upgrade

Contents

This chapter contains the following topics:

Introduction	23
Planning	25
Communication Server 1000 task flow	26
Upgrade checklists	28
Pre-upgrade tasks	28
Identifying the proper procedure	29
Connect a terminal	29
Check the Core ID switches	30
Print site data	32
Perform a template audit	35
Back up the database (data dump and ABKO)	36
Making the RMD bootable	41
Transfer the database from floppy disk to CF (customer database media converter tool)	44
Identify two unique IP addresses	50

Introduction

This document uses 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.

Each upgrade features check boxes that indicate the necessary system condition at each stage of the upgrade. If the system is not in the proper condition, you must take corrective action.

Each upgrade is designed to maintain dial tone where possible and limit service interruptions.



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.

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

Table 2
Prepare for upgrade steps

Procedure Step	Page
Planning	25
Upgrade checklists	28
Pre-upgrade tasks	28
Identifying the proper procedure	29
Connect a terminal	29
Check the Core ID switches	30
Print site data	32
Perform a template audit	35
Back up the database (data dump and ABKO)	36
Transfer the database from floppy disk to CF (customer database media converter tool)	44
Identify two unique IP addresses	50

Planning

Planning for an upgrade includes the following details:

- 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 that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- 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 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 if you abort 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.

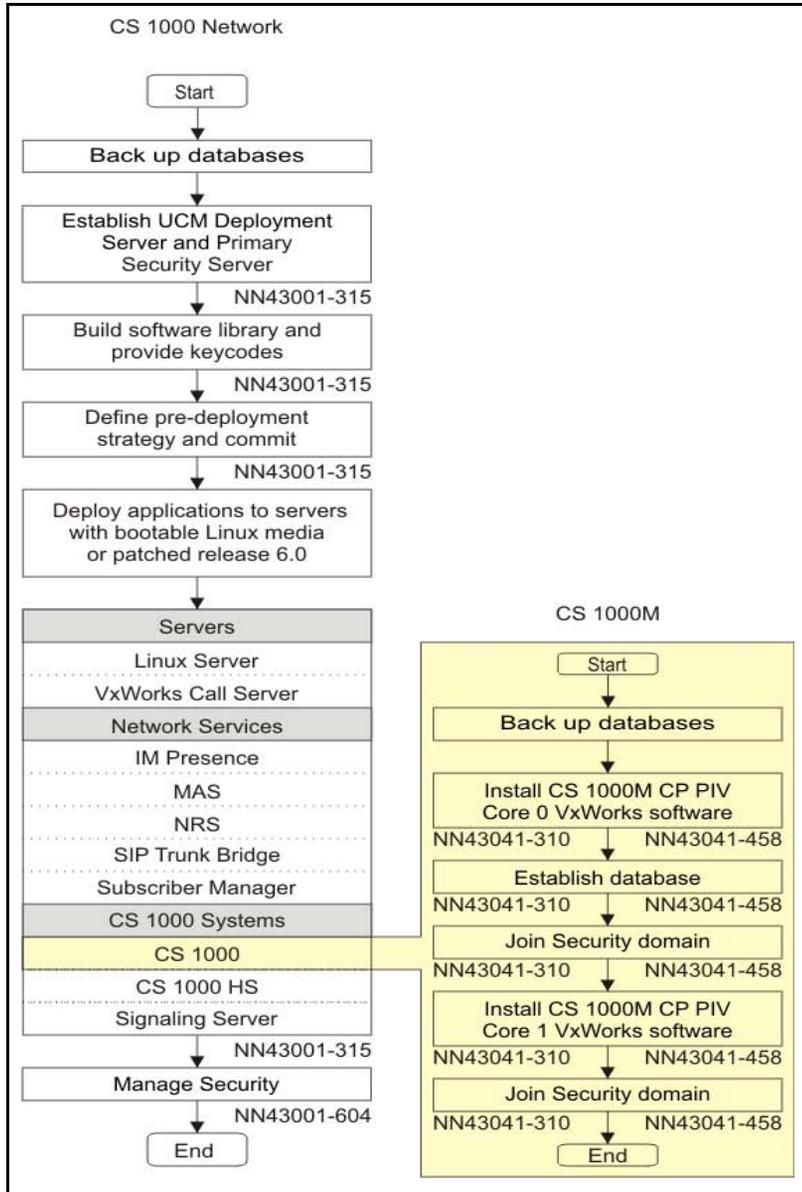
Communication Server 1000 task flow

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 183](#). Engineers can print this section for reference during the upgrade.

Pre-upgrade tasks

Preparing for an upgrade includes the following tasks:

- Identify and become familiar with all procedures.
- Verify proper cable lengths for the target platform.
- Verify card vintage requirements of the target platform.
- Current patch or Dep lists installed at the source platform.
- Required patch or Dep lists at the target platform.
- 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 keycode.
- Secure the target software and keycode.
- Verify the new keycode using the DKA program.
- Print site data.



IMPORTANT!

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

All systems can be converted by Nortel in the software conversion lab.

Identifying the proper procedure

Each procedure has been written in a source-to-target format. Each procedure features warning boxes and check boxes placed at critical points. Changing the procedure or ignoring the warning boxes could cause longer service interruptions.

Connect a terminal

Procedure 1 **Connecting a terminal**

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

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 Use the following values when setting the terminal:
 - 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, connect the terminal 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

Check the Core ID switches

Procedure 2 Checking the Core ID switches

Each CP NT4N40 Core/Net card cage or module is identified as Core 0 or Core 1 (see Figure 2 on [page 31](#)). This setting is made by a set of option switches on the SU card (see Figure 3 on [page 32](#)). The Core ID switches are set in the factory. Confirm that these settings match the identification labels for the module into which they will be installed.



CAUTION — Service Interruption

The CP Core/Net card cages **MUST** be installed in the correct Core 0 or Core 1 module.

- 1 Pull the SU card (NT4N48) far enough out of its slot so you can see the ID switch settings.
- 2 Check and confirm the switch settings according to Table 3 on [page 30](#).
- 3 Reinstall the SU card.
 - a. Gently slide the SU card into the slot until it makes contact with the backplane. Never force a card into the slot.
 - b. Push in the top and bottom latches on the card to lock it in place.

End of Procedure

Table 3
Core module ID switch settings (SU card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

Figure 2
Core card placement in the NT4N40 Core/Net card cage (front)

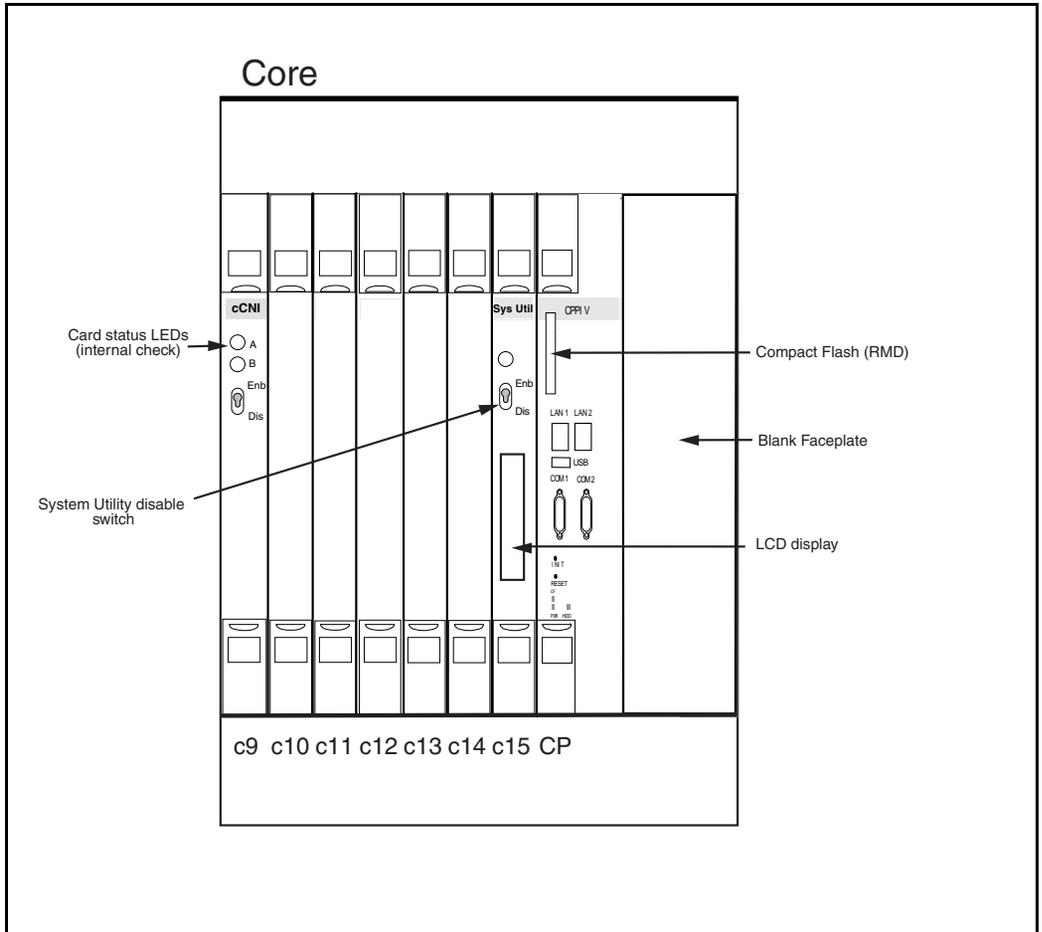


Figure 3
Core Module ID switch



Print site data

Print site data to preserve a record of the system configuration (Table 4 on [page 33](#)). Verify that all information is correct. Make corrections as necessary.

Note: Items marked with an asterisk (*) are required. Nortel recommends other items for a total system status.

Table 4
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 4
Print site data (Part 2 of 3)

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

Table 4
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.		

Perform a template audit

A template audit (LD 01) reviews the templates in your system. Corrupted and duplicate templates are cleaned up. Refer to the following list for an example of the information generated during the audit.

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



CAUTION — Data Loss

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

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

TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW CHECKSUM OK

TEMPLATE 0002 USER COUNT HIGH CHECKSUM OK

TEMPLATE 0003 NO USERS FOUND

STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK CHECKSUM OK

-
-

TEMPLATE 0120 USER COUNT OK CHECKSUM OK

TEMPLATE AUDIT COMPLETE

Back up the database (data dump and ABKO)

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

- 1** Perform a data dump to save all system memory to the hard disk.
- 2** Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 3 Performing a data dump

- 1** Log in to the system.
- 2** Load the Equipment Data Dump Program (LD 43). At the prompt, enter:

LD 43 Load program

- 3 When “EDD000” appears on the terminal, enter:

EDD Begin the data dump



CAUTION

Loss of Data

If the data dump does not succeed, do not continue. Contact your technical support organization. You must correct a data dump problem before the system can be upgraded.

- 4 The messages “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” appear when the data dump is complete.

**** Exit program

End of Procedure

Procedure 4
Performing an ABKO
(save the database to floppies)

- 1 Insert floppy diskettes into BOTH floppy disk drives in each Core IODU/C or MMDU.

Note: If the file is too large to fit on a single floppy disk, the ABKO command will compress the data. If the compressed data is still too large to fit on a single disk, both floppy disks in the two IODU/C drives will be used. Be sure to insert floppy disks into BOTH IODU/C drives before the ABKO backup is begun.

- 2 Load the Customer Configuration Backup and Restore (LD 143). At the prompt, enter:

LD 143 Load program

- 3 Run the ABKO backup (LD 143).

ABKO Run backup

Result: If the backup is successful, the system displays a message that states that the database backup is complete and generates a report that indicates which floppy drives were used.

- 4 If there are validation errors, repeat the procedure.



CAUTION — Service Interruption

Loss of Data

If the backup is not successful, do not continue; contact your technical support organization. Any backup problems must be corrected before the system is upgraded to CP PIV.

- 5 Once the backup is complete, type:

**** Exit program

End of Procedure

Procedure 5
Converting the 4 Mbyte database media to 2 Mbyte database media



IMPORTANT!

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

If the system is equipped with IOP/CMDU cards the database must be converted with the Database Transfer utility.

If the system is equipped with IODUC cards, the database should be data dumped (EDD) to a blank 2 MB floppy.

All systems can be converted by Nortel in the software conversion lab.

Before the system is upgraded to CP PIV, you must convert the database to 2 MB media. Systems with an IODU/C drive already have 2 MB media and can skip this procedure.

If the database is on a 4 MB database media (the system has an IOP/CMDU), the 4 Mbyte customer database must be transferred to 2 MB media.

- 1 Split the Cores and transfer call processing to Core 0.
- 2 Install the Database Transfer Utility diskette into the floppy drive on the IOP or CMDU in Core 1.

- 3 Press the reset button (MAN RST) on the Call Processor card in Core 1 to reboot the system. Start the Database Transfer Utility Tool.



CAUTION — Service Interruption

Select only options:

- <t> Tools Menu from the Install menu, and
- <s> To archive existing database from the Tools menu.

DO NOT select any other options. Other options can result in operating system corruption.

- 4 From the installation menu select:

- | | |
|----------|--|
| <t> | Go to the Tools menu. |
| <s> | Archive existing database. |
| <cr> <a> | Continue with archive (insert blank 2MB diskette from the software kit into the floppy drive in Core 1). |
| <cr> <a> | Diskette is now in floppy drive in Core 1. |

- 5 The message displays “Database backup complete!” and the Tool menu appears again after the backup completes correctly.
- 6 Remove the 2 MB diskette with the customer database from the floppy drive of the IOP or CMDU. Keep the diskette for use after you convert Core 1 to NT4N40 Core/Net 1. Do not reboot the system at this point.

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.

The PC utility used in the following procedure (mkbootrmd.exe) will erase any data on the CF card. For more information, read the README_BOOTABLE_RMD.txt file.

Note: This utility is supported by all versions of Microsoft Windows.

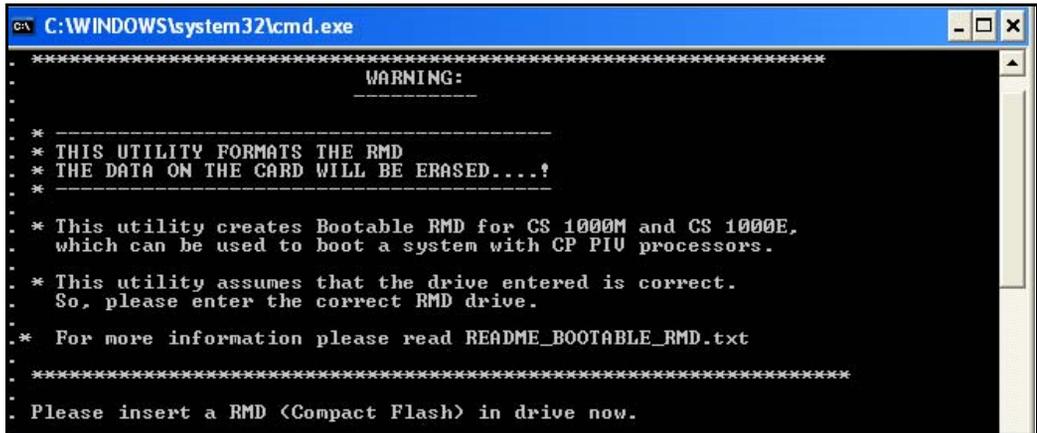
The installation RMD CF card must come pre-formatted and bootable from Nortel. Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 6 on [page 41](#).

Procedure 6 Making the RMD bootable

- 1 After downloading the software image file, unzip it to a directory on your PC.
- 2 Open the utilities folder.

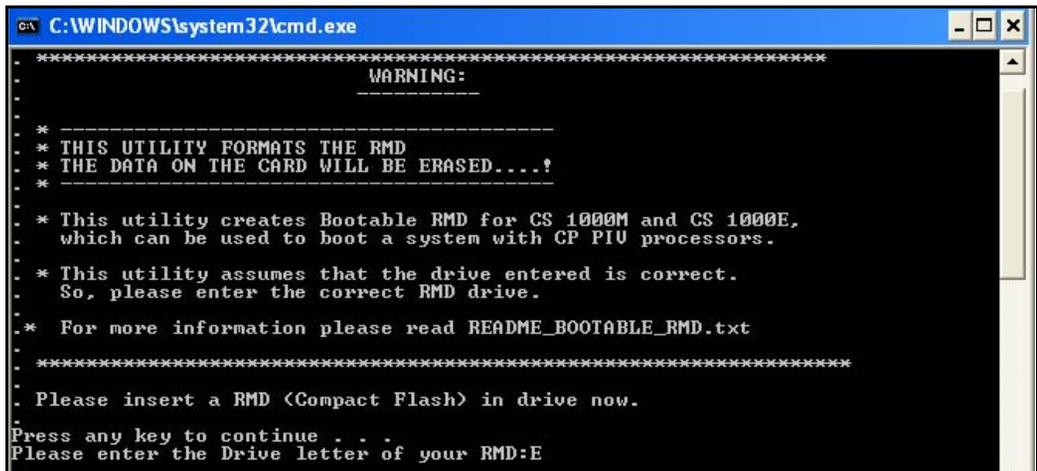
- 3 Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 4).

Figure 4
mkbootrmd.bat



- 4 Enter the correct drive letter of the RMD (see Figure 5).

Figure 5
mkbootrmd.bat



- 5 The boot sector files (bootrom.sys and nvr.am.sys) are successfully copied making the CF card bootable (see Figure 6).

Figure 6
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.
. Press any key to continue . . .
```

End of Procedure

Transfer 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).

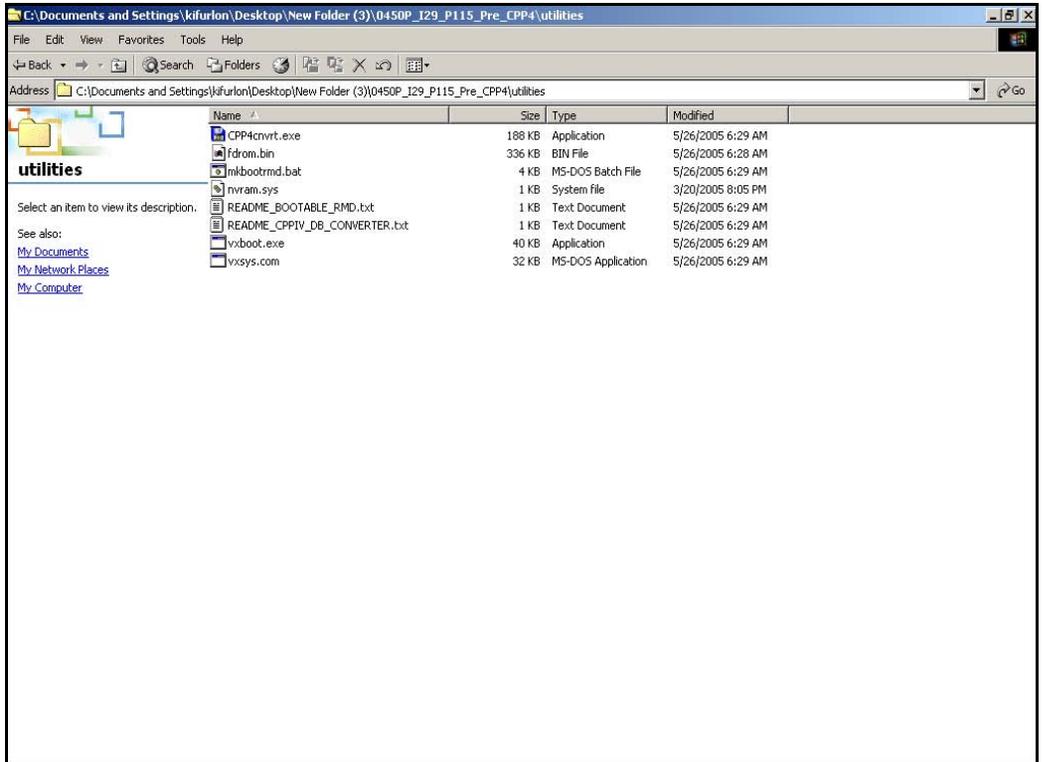
The floppy disk that contains the backed-up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to a CF card, which is restored during the CS 1000 Release 7.0 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

Procedure 7

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 7 on [page 45](#).

Figure 7
Utilities folder

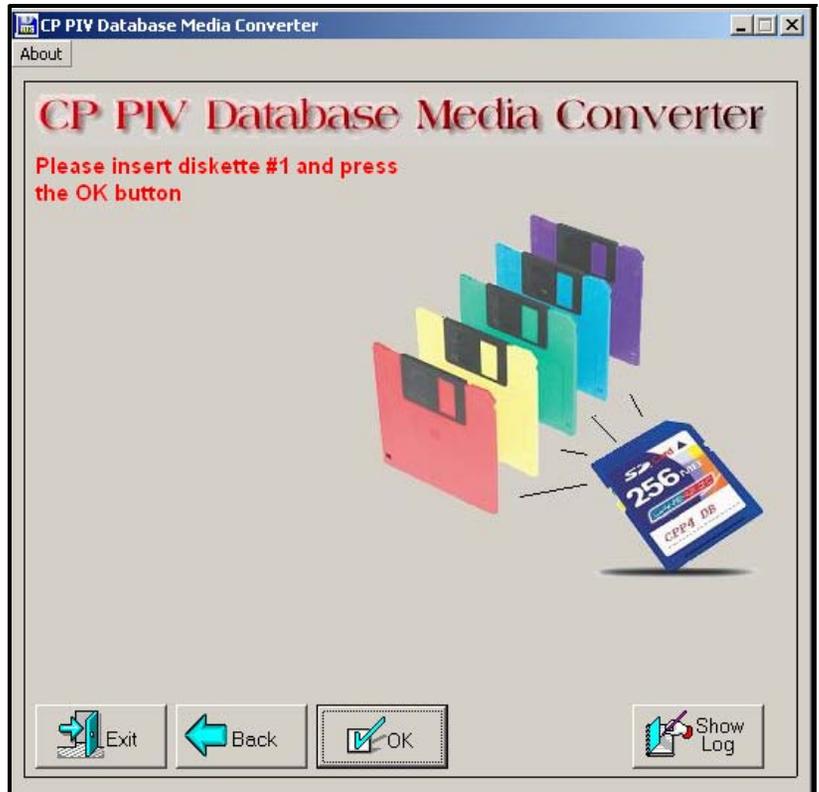
- 3 Insert the floppy disk containing the backed up customer database from Procedure 3 on [page 36](#).
- 4 Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
- 5 Start the Database Media Converter utility by double clicking the CPP4cnvrt.exe file. The first screen (Figure 8 on [page 46](#)) prompts you to select the correct drive letter for the floppy disk drive.

Figure 8
Select the floppy disk drive



- 6 The utility then prompts you to insert the floppy disk (diskette 1) and click **OK** (see Figure 9 on [page 47](#)).

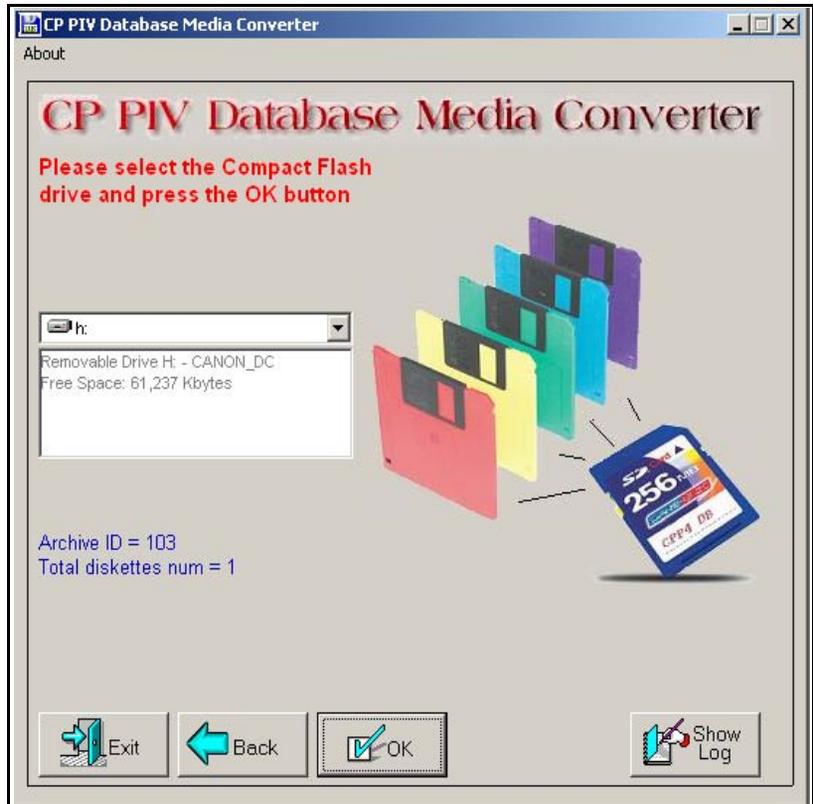
Figure 9
Insert diskette 1



- 7 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 10 on [page 48](#)).

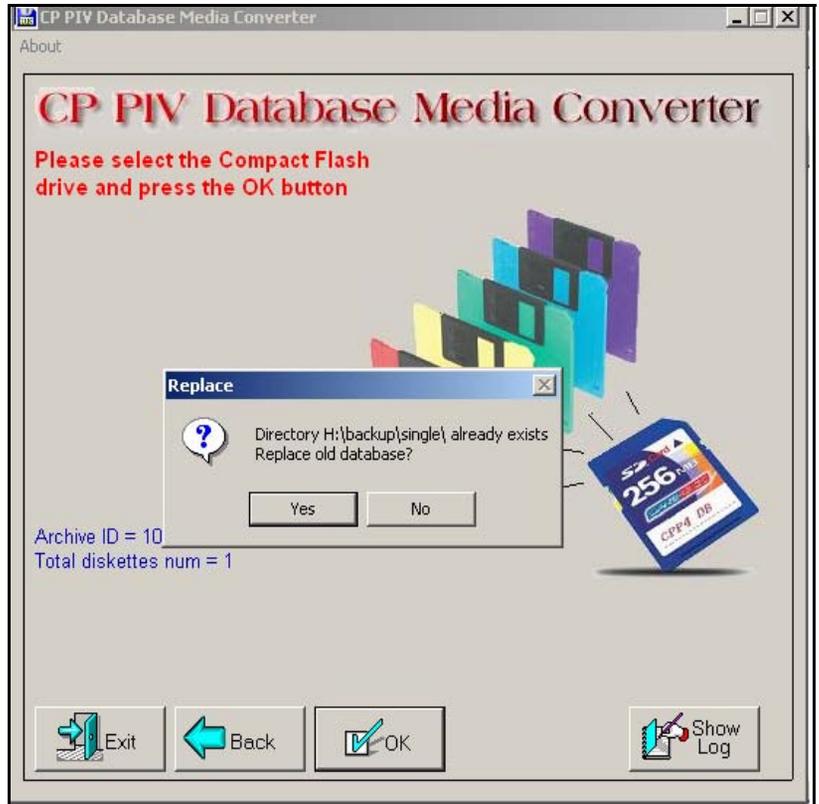
Note: If the database is on more than one floppy, the utility prompts you to insert the next floppy until the entire database is read.

Figure 10
Select the CF drive



- 8** At this point, two options are available:
- a.** If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 11 on [page 49](#)). Click **yes** to replace the old database.
 - b.** If the CF card is blank, the database is backed up to the CF card.

Figure 11
Replace database on CF drive



- 9 The utility completes the transfer to CF and prompts you to copy another or **EXIT** (see Figure 12 on [page 50](#)).

Figure 12
Copy another or exit



End of Procedure

Identify two unique IP addresses

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

processing is always identified by the same IP address. Contact your systems administrator to identify two unique IP addresses before the upgrade.

Performing the upgrade

Contents

This chapter contains the following topics:

Review upgrade requirements	57
Install Core 1 hardware	62
Install Core 0 hardware	92
Making the system redundant	133
Completing the CP PIV upgrade	137

Introduction

Figure 13 on [page 54](#) shows an upgrade to a stacked Meridian 1 Option 61C CP PIV system.

Figure 14 on [page 55](#) shows an upgrade to a side-by-side Meridian 1 Option 61C CP PIV system.



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.

Figure 13
Meridian 1 Option 61C CP PIV stacked upgrade

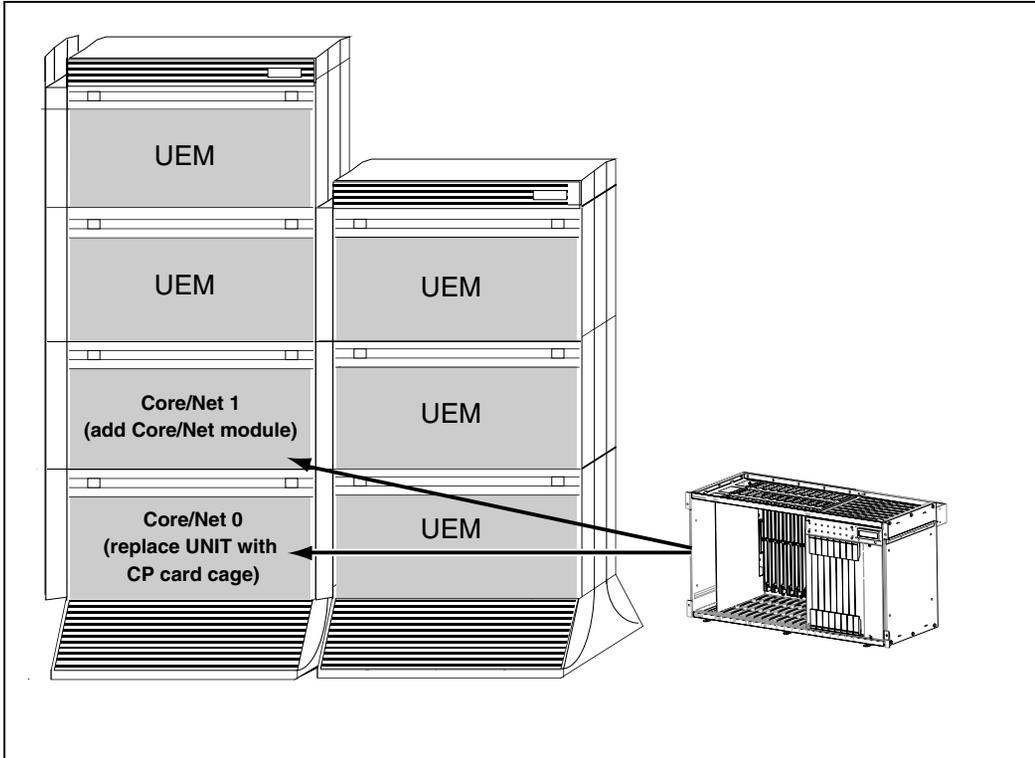
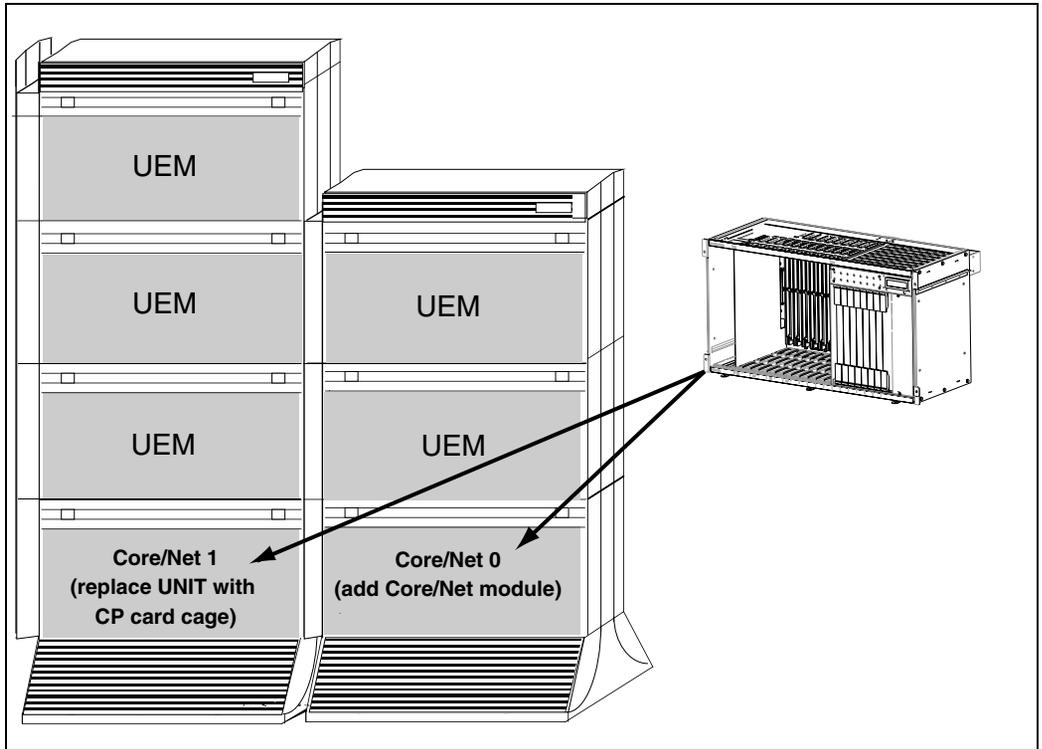


Figure 14
Meridian 1 Option 61C CP PIV side-by-side upgrade



This upgrade takes a Meridian 1 Option 51/51C to a Single Group Meridian 1 Option 61C with CP PIV. CP PIV cards are located in the Core/Net modules or card cage.

One card cage in the existing Core/Net module is replaced with an NT4N40 CP card cage (see Figure 15 on [page 56](#)). A new NT4N41 Core/Net module is also required.

Existing network cards are relocated to the NT4N40 CP card cage. The following additional cards are required for the NT4N41 Core/Net module:

- Peripheral Signaling cards (PS pack).
- 3 Port Extender (3PE).

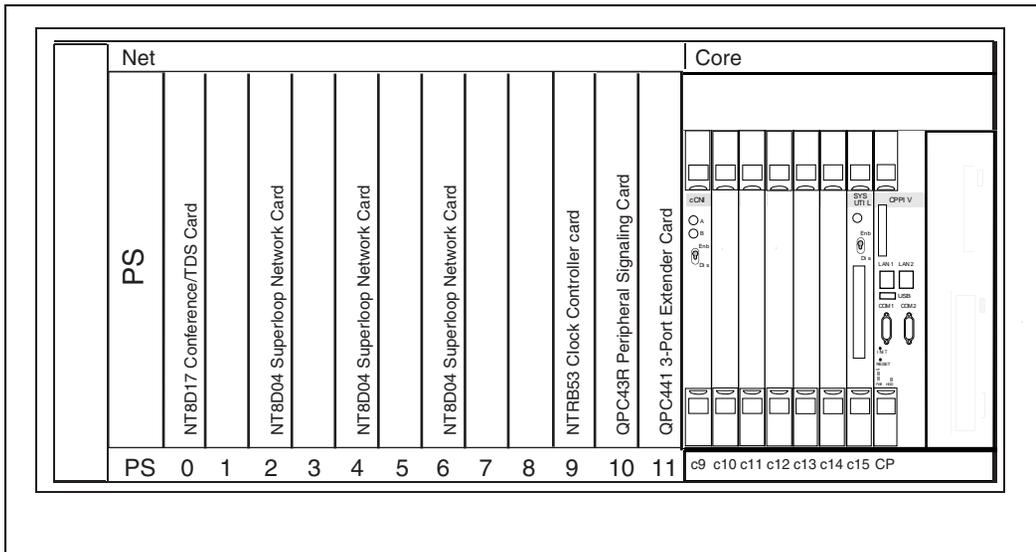
- Clock Controller card.
- Conference/TDS Pack (XCT).



WARNING

Clock controller cards must be of the same part number for any single system. For instance, a QPC471 card cannot be used with an NTRB53 card.

Figure 15
CP PIV Core/Net Module



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 147](#).

Review upgrade requirements

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

Check equipment received

Meridian 1 Option 61C CP PIV equipment is configured at the factory according to customer requirements. Some cards and power supplies are shipped in separate packages to prevent damage to the cards.

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



CAUTION — Service Interruption

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

Check required software

The following software packages are required to upgrade a system to Meridian 1 Option 61C with CP PIV.

- CORENET Core Network Module Package 299
- CPP_CNI CP Pentium Backplane for Intel Machine Package 368
- The Compact Flash Software Install Kit, containing 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

Check vintage requirements for existing hardware

Check the list below to make sure that existing hardware meets the minimum vintage requirements for CP PIV.

If equipment does not meet the requirements, replace it before you begin the upgrade.



CAUTION — Service Interruption

Equipment that does not meet the minimum vintage requirements can cause system malfunctions and loss of call processing.



WARNING

Clock Controller cards must be of the same part number for any single system. For instance, a QPC471 card cannot be used with an NTRB53 card.

- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage AA.
- The QPC471 Clock Controller cards must be minimum vintage H.
- The QPC775 Clock Controller cards (all countries except USA) must be minimum vintage E.
- QPC720 PRI cards require NT8D79 cables. NT5D12 Dual PRI/DTI cards require NTCG03 cables.
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

Check required hardware (AC and DC)

Table 5 lists the equipment required for DC-powered systems. Table 6 lists the equipment required for AC-powered systems.



WARNING

Ensure that power supplies NT6D41CA (DC) or NT8D29BA (AC) are used in the Core/Net shelf.

Table 5
DC requirements for Meridian 1 Option 61C CP PIV system

Order number	Description	Quantity per system
NTHU46DA	Option 61C from 51/51C Upgrade to CP-PIV Single Group (DC)	1

Table 6
AC requirements for Meridian 1 Option 61C CP PIV system

Order number	Description	Quantity per system
NTHU46AA	Option 61C from 51/51C Upgrade to CP-PIV Single Group (AC)	1

The equipment room must provide the appropriate number of 30 Ampere outlets. One 175-264 VAC, 47-63 Hz, 30 Ampere outlet is required for every pedestal or column.

If supporting additional Meridian 1 modules, order additional top cap and pedestal packages (NTWB15BA). One top cap and pedestal package supports up to four modules.

To cover all exposed module sides and to connect modules side-to-side, additional NT9D18AA module side covers and NT8D49AA column spacer kits must be ordered separately. The NTHU44AA and DA packages contain

common equipment hardware only, including two CP PIV Pentium call processor cards and two NTRB53 Clock Controller cards.

The NTHU44AA and DA packages contain common equipment hardware only, including two CP PIV Pentium call processor cards and two NTRB53 Clock Controller cards.

These packages are designed for computer floor installation, with all cables exiting from the pedestal. If the installation requires overhead cabling, order NT7D0009 top egress panel, one per column.

An NT8D49AA Spacer kit is provided to allow for a side-by-side installation of core/network modules. This arrangement requires an additional top cap and pedestal package and must be ordered separately.

Intelligent peripheral equipment must be ordered separately. Order NTWB15DA for any additional AC IPE Modules required.

Peripheral equipment (PE) or Enhanced peripheral equipment (EPE) is not supported on systems with Pentium Processors.

Check required power equipment

Table 7 on [page 60](#) lists the equipment required for DC-powered systems.

Table 8 on [page 61](#) lists the equipment required for AC-powered systems.

	<p>WARNING</p> <p>Ensure that power supplies NT6D41CA (DC) or NT8D29BA (AC) are used in the Core/Net shelf.</p>
---	--

Table 7
DC power requirements for Meridian 1 Option 51 upgrades

Order number	Description	Quantity per system
NT6D41CA	Core/Network Power Supply DC	2

Table 8
AC power requirements for Meridian 1 Option 51 upgrades

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2

Check personnel requirements

Nortel recommends that a minimum of two people perform the card cage upgrade.

Database requirements

If the system is running pre-release 3.0 software or the source platform is a Meridian 1 Option 21E, 51, 61, 71, STE, NT or XT, the database must be sent to Nortel for conversion.

System requirements



IMPORTANT!

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

CS 1000 compatibility

Consult *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (NN43021-220) for CS 1000 Release 7.0 product compatibility.

Install Core 1 hardware

Install the NT4N41 Core/Net module and pedestal next to the existing column, or on top of the column if you are installing a stacked configuration. For information about AC/DC power, side panels, and EMI spacers (placing the fourth module on a column), see the appropriate chapters in *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310)

Procedure 8 Checking main Core card installation

The main Core cards are installed in the factory as shown in Figure 16 on [page 63](#).

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:
Each system contains one NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots c10-c12, which do not contain cCNIs.

Note: In the NT4N41 Core/Net module, port 0 on the NT4N65 Core to Network Interface (cCNI) Card in slot c9 can only be configured as group 0. The cCNI and 3PE cards for group 0 communicate through the NT4N29 cable. Only one cCNI card is required for group 0 in a Meridian 1 Option 61C CP PIV.
- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 The NT4N48 System Utility (Sys Util) card is located in slot c15. Check the side ID switch settings for the SU card in Core/Net 1 according to Table 9.

Table 9
Core module ID switch settings (System Utility card)

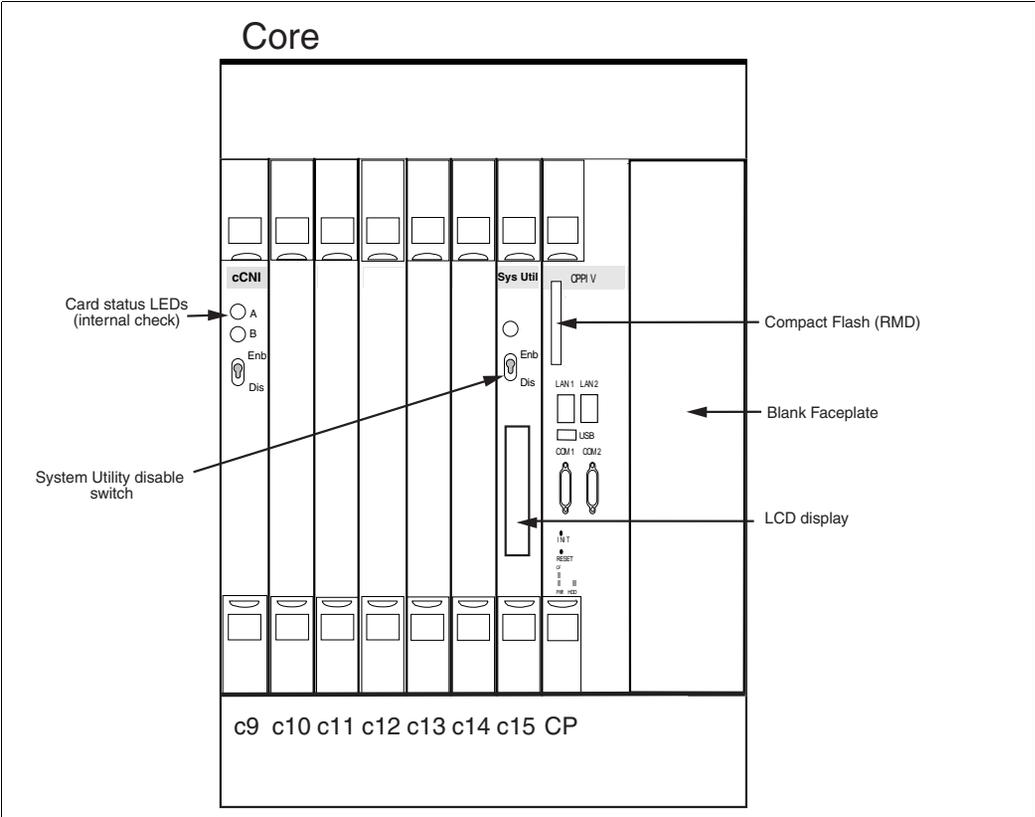
	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 4 NT4N39 CP PIV is located in the Call Processor slot.

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

End of Procedure

Figure 16
Core card placement in the NT4N41 Core/Net Module (front)



Install the Security Device for Core/Net 1

Procedure 9

Installing the Security Device for Core/Net 1

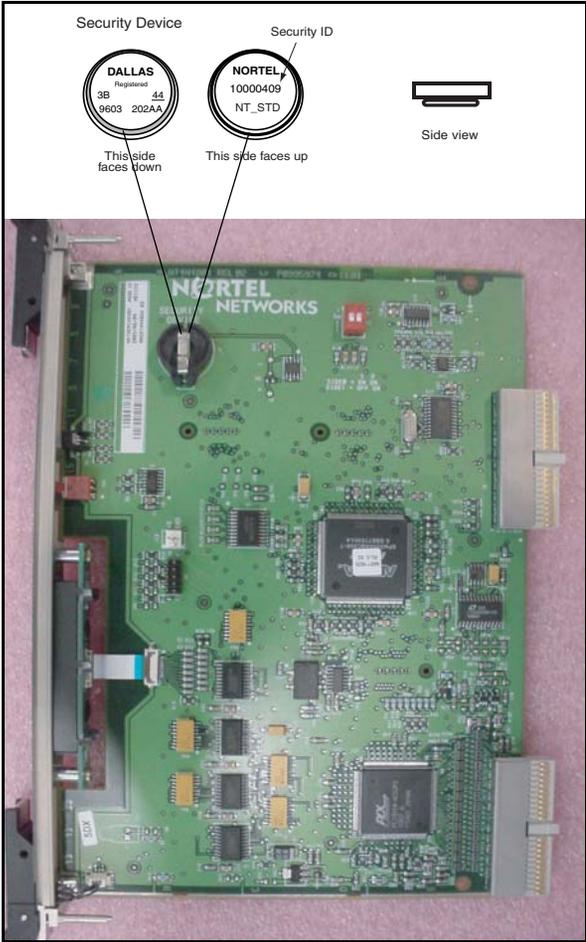
The Security Device fits into the SU card (see Figure 17 on [page 65](#)).

To install the Security Device for Core/Net 1:

- 1 Locate the new Security Device included with the Software Upgrade kit.
- 2 Insert the Security Device into the Security Device holder on the SU card with the Nortel side facing up. Do not bend the clip more than necessary.
- 3 Check that the Security Device is securely in place.

End of Procedure

Figure 17
Security Device



Check for the shelf power cable

Check that the NT4N4405 Shelf Power Cable is installed in the CP PIV card cage backplane. See Figure 18 on [page 67](#) for the cable location.

Unpack and install NT6D41CA (DC) or NT8D29BA (AC) Power Supply

Procedure 10 Installing the power supply

- 1 Unpack the power supply.
- 2 Faceplate-disable the power supply.
- 3 Insert the power supply into the Core/Net module power supply slot.

————— End of Procedure —————

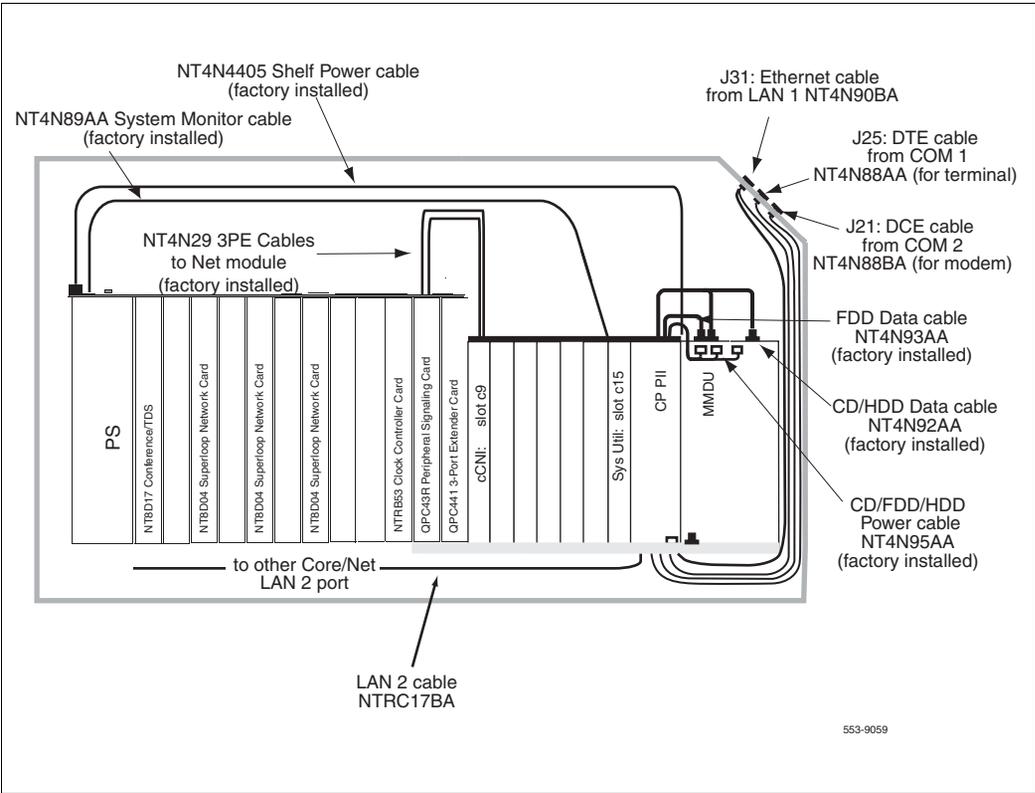
Check factory-installed cables

Table 10 lists factory-installed cables (see Figure 18 on [page 67](#)).

Table 10
Factory-installed cables

Order Number	Description	Quantity per Core/Net shelf
NT4N4405	Shelf Power Cable	1
NT4N89AA	System Monitor cable	1
NT4N29AA	CNI to 3PE cable	2

Figure 18
Core/Net cable connections (top view)



Install network cards in Core/Net 1

Procedure 11

Installing the network cards in Core/Net 1

1 Check the switch settings and jumpers. See Table 11.

- a. All 3PE cards must be vintage F or later.
- b. Check that the RN27 Jumper is set to A.

Note: The settings for 3PE cards in Core/Net shelves are different from those in all other shelves. Table 11 shows the 3PE settings for cards installed in CP PIV Core/Net Modules.

- c. install QPC441 3PE card to slot 11.

Note: For 3PE settings for cards installed in Network Modules, see Table 12 on [page 69](#).

Table 11
QPC441 (QPC440) 3PE Card installed in the CP PIV Core/Net modules

Jumper settings. Set Jumper RN27 at E35 to A.									
Switch Settings									
Module		D20 switch position							
CP PIV Core/Net modules only		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off

- 2 Installing the QPC43R Per Sig card in slot 10.
- 3 Set the Clock Controller 1 switch settings according to Table 12 on [page 69](#) and to Table 13 on [page 69](#).
- 4 Install the Conference TDS pack (XCT) into slot 0.

5 Install the Clock Controller in slot 9.

————— End of Procedure —————

Table 12
Clock Controller switch settings for QPC471H, QPC771H

Systems upgraded to CP PIV must use the Meridian 1 Option 61C CP PIV switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				SW2				SW4			
1	2	3	4	1	2	3	4	1	2	3	4
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)									off	off	
4.6–6.1 m (15–20 ft.)									off	on	
6.4–10.1 m (21–33 ft.)									on	off	
10.4–15.2 m (34–50 ft.)									on	on	
** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

Table 13
Clock Controller switch settings for NTRB53 (Part 1 of 2)

Multi Group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		3	4			
1	2	3	4		5	6
Multi Group = Off Single group = On	21E = Off 51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On Side 1 = Off	71,81 = Off 21E, 51, 51C, 61. 61C, 81C = On

Table 13
Clock Controller switch settings for NTRB53 (Part 2 of 2)

Multi Group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		Off	On	4.6–6.1 m (15–20 ft.)		
		On	Off	6.4–10.1 m (21–33 ft.)		
		On	On	10.4–15.2 m (34–50 ft.)		
Note: Switches 7 and 8 are not used.						

Power up Core/Net 1

Procedure 12 Preparing for power up

- 1 Check that a terminal is connected to the J25 I/O panel connector (COM 1) on Core/Net 1.

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

- 2 Connect a terminal to the J25 port on the I/O panel in Core/Net 1.
- 3 Check the terminal settings as follows.
 - a. 9600 baud
 - b. 8 data
 - c. parity none
 - d. 1 stop bit
 - e. full duplex

f. XOFF

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

End of Procedure

Procedure 13
Powering up Core/Net 1

- 1 Faceplate-enable all Core and Network cards in Core/Net 1.
- 2 For AC-powered systems (NT8D29BA), set the MPDU circuit breaker located at the left end of the module to ON (top position.)
- 3 Set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).
- 4 For DC-powered systems, faceplate-enable the NT6D41CA power supply and then set the breaker for the Core 1 module in the back of the column pedestal to ON (top position).
- 5 Check that the Network and I/O cards have working power.
- 6 Allow the system Load/initialize before beginning the software installation.

End of Procedure

CS 1000 Release 7.0 upgrade

Upgrading the software

Procedure 14 outlines the steps involved in installing CS 1000 Release 7.0 for the CP PIV processor.

Procedure 14
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...
```



```

                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 82](#).

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

Configuring IP addresses

Procedure 15 Configuring the IP addresses

Two unique IP address are required for the CP PIV system to communicate with the LAN. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core.

- 1 Use the following command to check the status of the system's IP address:

LD 117 Load program

prt host Print the configured host information

If the system returns with host names active and inactive, go to "Check for Peripheral Software Download to Core 1" on [page 89](#). If the system returns no host names, complete the following steps:

- 2 Contact your System Administrator to identify IP address and subnet mask information.
- 3 Configure the primary (*active*) and secondary (*inactive*) IP addresses:

LD 117 Load the program

new host name 1 IP address Define the first IP address:
"name 1" is an alias for the IP address such as "primary". The IP address is the IP number.

chg elnk active name 1 Assign the "name 1" address to the *active* Core.

new host 'name 2' 'IP address' Define the second IP address:
"name 2" is an alias for the IP address such as "secondary". The IP address is the IP number.

chg elnk inactive name 2 Assign the “name 2” address to the *inactive* Core.

chg mask xxx.xxx.xxx.xxx Set the sub-net per local site. This number allows external sub-nets to connect to the system.

4 Enable the new Ethernet interface.

LD 137 Load program

update dbs Update the ELINK database

dis elnk *Disable* the old IP interface values

enl elnk *Enable* the new IP interface values

End of Procedure

Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Print site data” on [page 32](#). 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 16

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

Performing a data dump

Procedure 17

Performing a data dump to backup the customer database:

- 1 Log in to 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

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

End of Procedure

Install Core 0 hardware

Power down Core/Net 0



CAUTION

Service Interruption

Call processing is interrupted for approximately 60 minutes while the procedures are completed.



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.

For AC-powered systems: set the MPDU circuit breaker located at the left end of the module to OFF (down position).

For DC-powered systems: set the breaker for the Core 0 module in the back of the column pedestal to OFF (down position).

Remove Core 0 cables and card cage

Procedure 18

Removing Core 0 cables and card cage

- 1 Label and disconnect all cables to the front of the module.
- 2 Tape over the contacts to avoid grounding.
- 3 Tie all cables to the sides so the working area in front of the card cage is totally clear.
- 4 Remove the I/O safety panel by turning the screws on each side. Set the I/O safety panel aside.
- 5 Tag and disconnect all cables from the backplane to the interior of the I/O assembly.
- 6 Tag and disconnect all plugs, wires, and cables to the backplane.

Note 1: Leave the network cards in the card cage. You will relocate them to the CP card cage later in the upgrade procedure.

Note 2: Two people are needed to remove the Core card cage because of the weight of the card cage with the cards left installed.

- 7 At the bottom rear of the card cage, remove the two mounting screws that secure the card cage to the module casting.

**CAUTION**

Do not drop the mounting screws into the pedestal. Doing so can cause serious damage.

Keep the screws for use with the CP card cage. (You need a 1/4" nut driver to remove the screws.)

- 8 Remove the front trim panels on both sides of the card cage.
- 9 Remove the three mounting screws that secure the front of the card cage to the bottom of the module. Save the screws for use with the CP card cage.
- 10 Pull the card cage forward until it is halfway out of the module.
- 11 Disconnect cables, plugs, and wires from the rear of the module to the backplane.
- 12 Remove the logic return (LTRN) (orange) wire from the backplane bolt. Be careful; do not drop the nut or lock washer into the pedestal. For DC power connectors, see Figure 19 on [page 94](#). For AC power connectors, see Figure 20 on [page 95](#).
- 13 Remove the frame ground (FGND) (green) wire from the frame ground bolt on the module.
- 14 Label and disconnect the module power connectors. These are small orange connectors plugged into the module power distribution unit (MPDU) in an AC-powered system, or connected to each other in a DC-powered system.
- 15 Label and disconnect the system monitor ribbon cables to J1 and J2.
- 16 Remove the Core card cage from the module.

Figure 19
DC power connectors on the Core module backplane

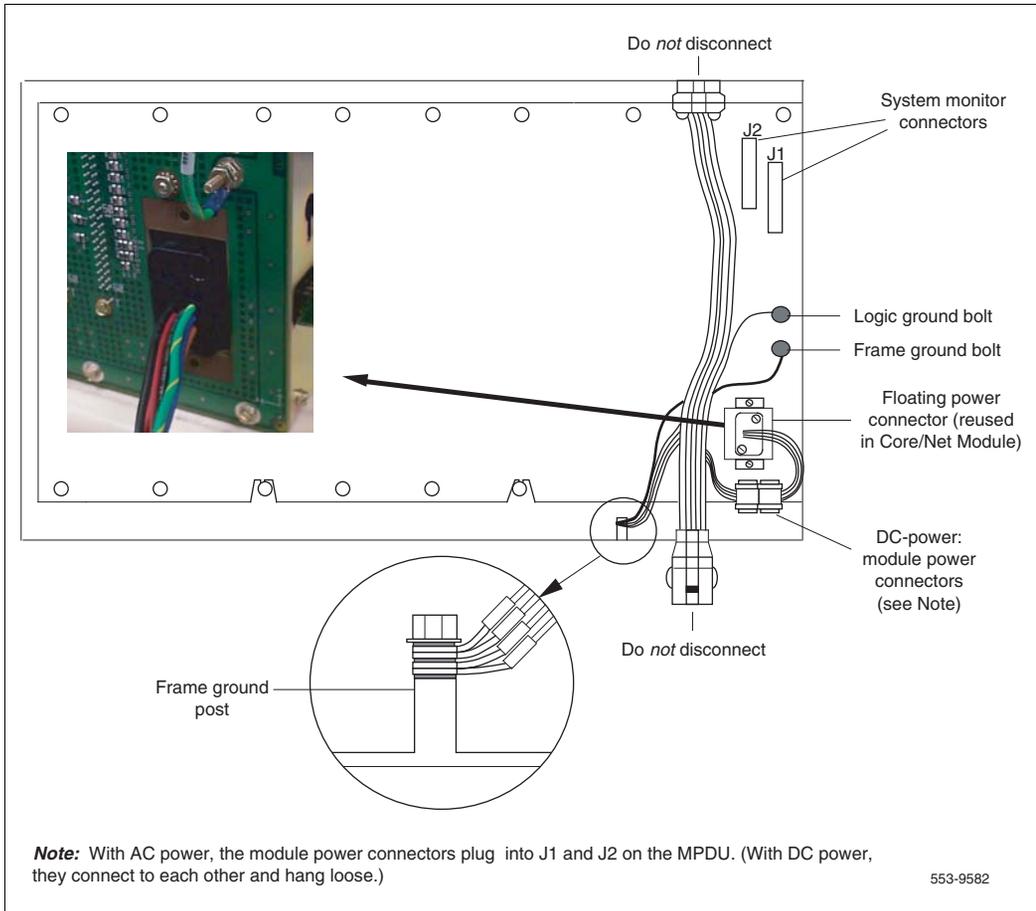
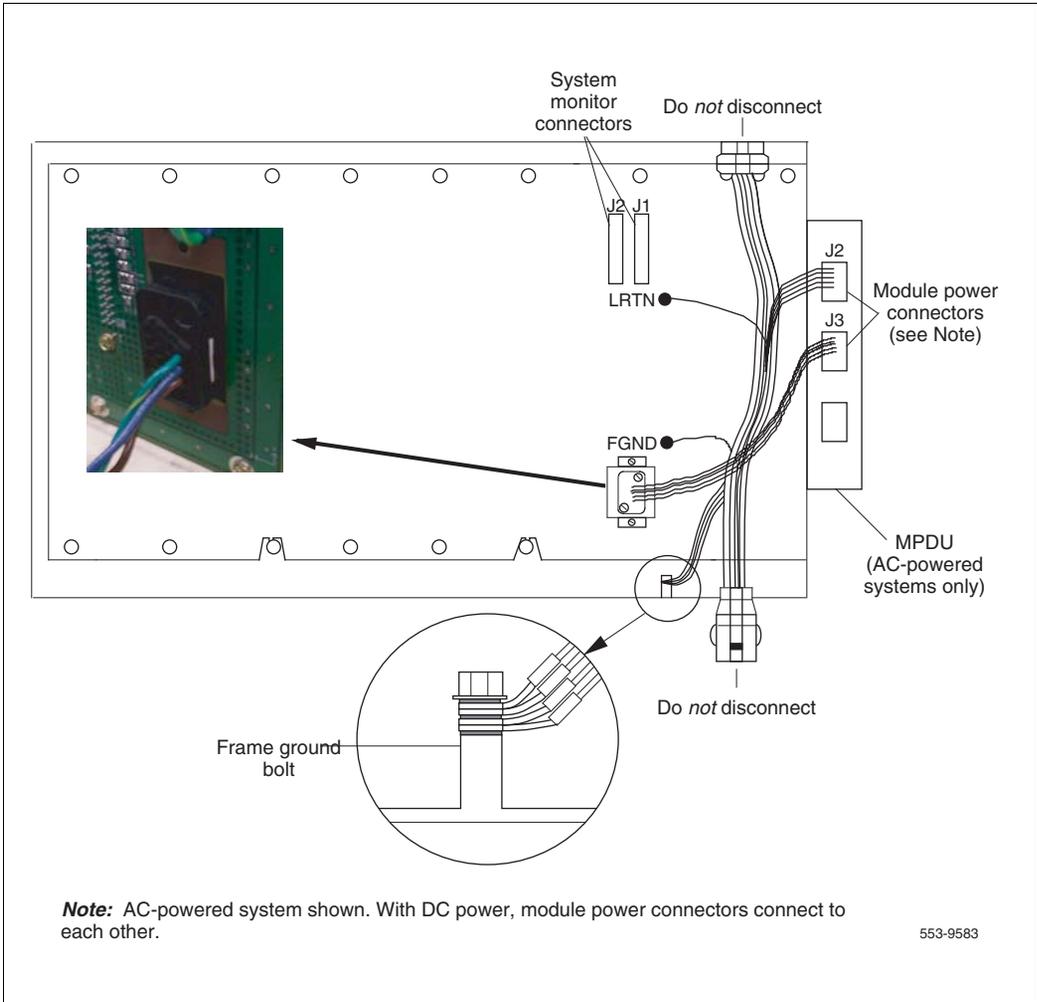


Figure 20
AC power connectors on the Core module backplane



- 17 Remove the power harness and reserve it for reinstallation as part of installing the NT4N40 card cage. The power harness is located at the right rear lower corner and plugs into the rear of the power supply.
- For AC systems, relocate power harness NT8D40.
 - For DC systems, relocate power harness NT7D11.



WARNING

Be sure to perform the following step. If you do not tape the EMI shield in position, you cannot install the card cage in the module correctly.

- 18 Reposition the EMI shield (it looks like a brass grill) in the base of the module. Tape over the front mounting tabs to hold the shield in position. You will remove the tape later.



CAUTION

Damage to Equipment

Check for and remove any debris (such as screws) that could have fallen into the base of the UEM module.

End of Procedure

Upgrade Core 0 hardware

Procedure 19

Checking main Core card installation

The main Core cards (including the cables for power and data), are installed in the factory as shown in Figure 21 on [page 98](#).

- 1 NT4N65AC CP Core Network Interface (cCNI) cards:
Each system contains one NT4N65 cCNI card per Core/Net module. The cCNI cards are located in slot c9. If not already installed, install a P0605337 CP Card Slot Filler Panel to cover slots c10 - c12, which do not contain cCNIs.

Note: In the NT4N41 Core/Net module, port 0 on the NT4N65 Core to Network Interface (cCNI) Card can only be configured as “group 0.” The cCNI and 3PE cards for group 0 communicate through the NT4N29 cable. Only one cCNI card is required for group 0 in a Meridian 1 Option 61C CP PIV.
- 2 Slots c13 and c14 are left empty. If not already installed, install a P0605337 CP Card Slot Filler Panel in each slot.
- 3 NT4N48 System Utility (Sys Util) card is located in slot c15.
 - a. Check side ID switch settings for the SU card in Core/Net 1 according to Table 14.

Table 14
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 4 The NT4N39 CP PIV is located in the Call Processor slot.
- 5 The N0026096 blank faceplate is located in the extreme right-hand slot next to the CP PIV card. Check that the NT4N4405 shelf power cable is installed in the CP card cage backplane. See Figure 22 on [page 99](#) for the cable location.

Figure 21
Core card placement in the NT4N41 Core/Net Module (front)

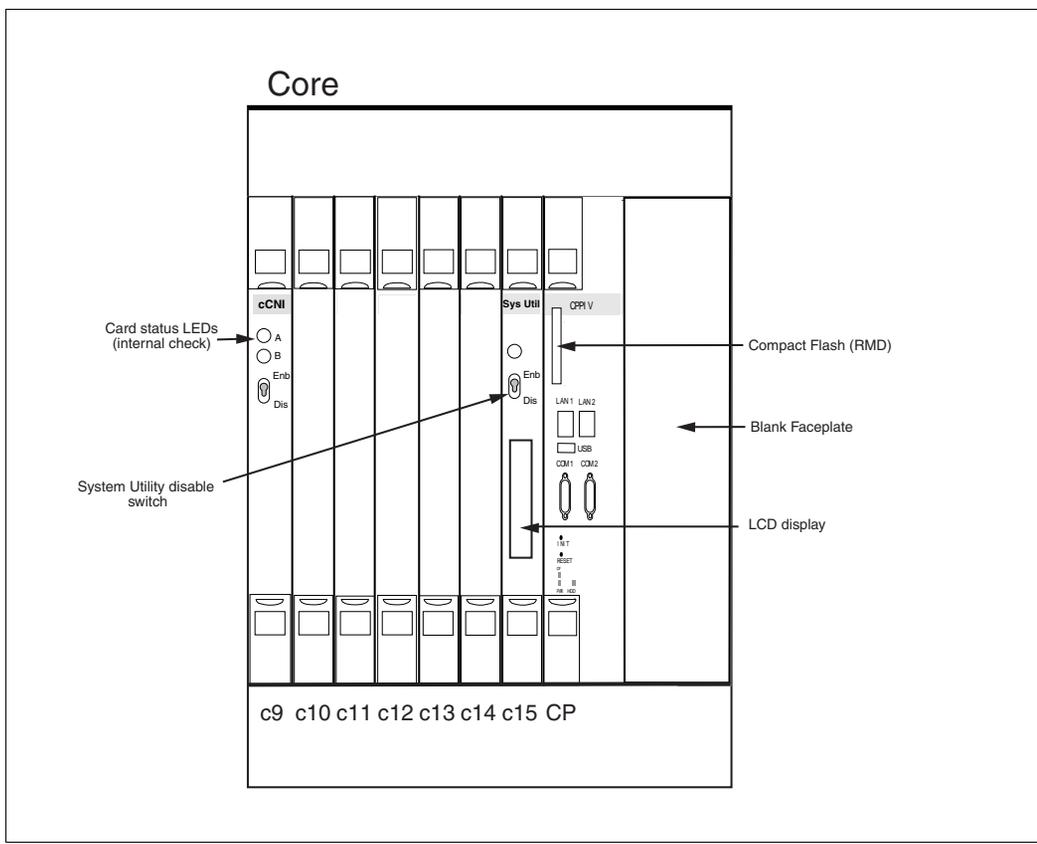
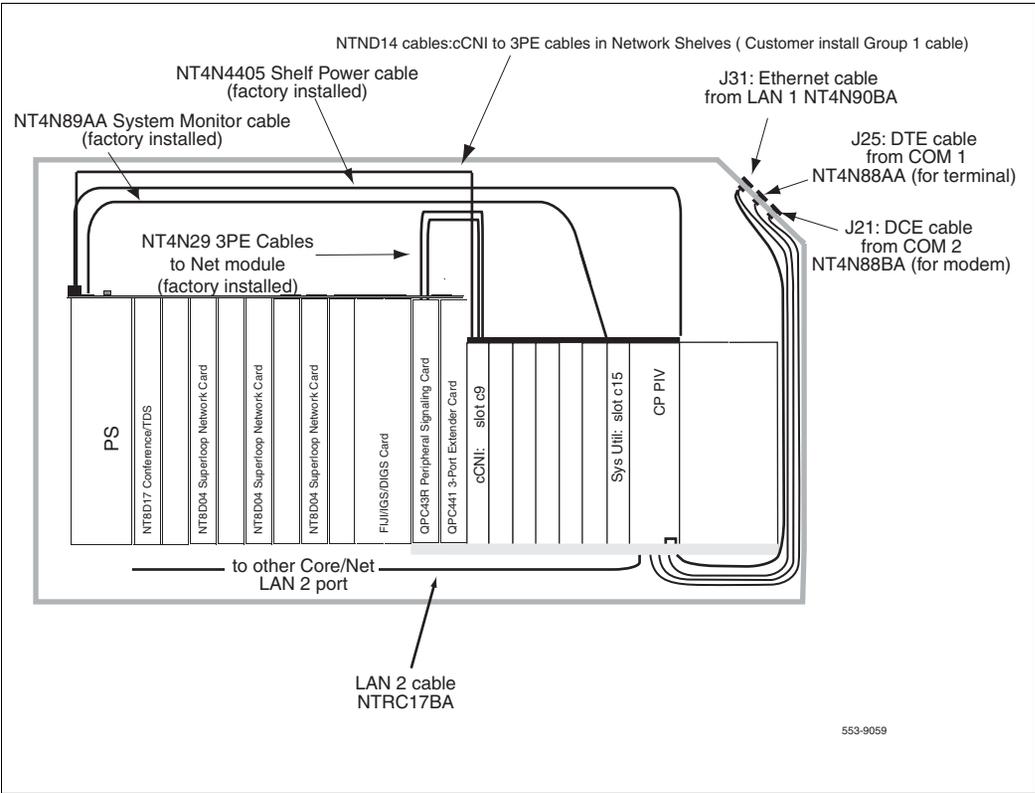


Figure 22
Core/Net cable connections (top view)



Install the CP card cage in Core 0

Procedure 20 Installing the CP card cage in Core 0

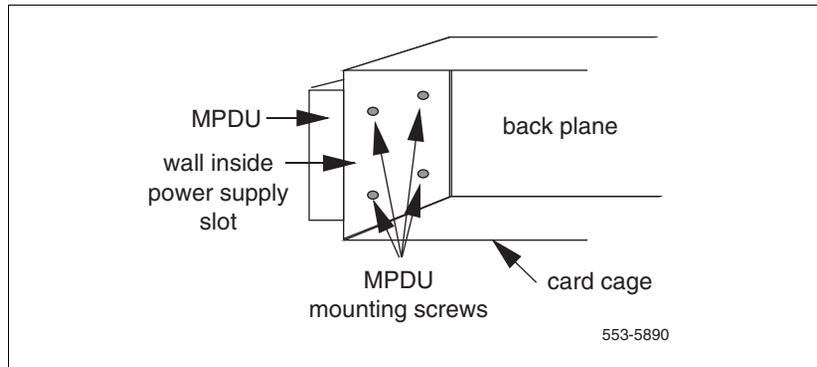
- 1 Check that the card cage is configured as Core 0. See Table 15 for instructions.

Table 15
Core module ID switch settings (System Utility card)

	Position 1	Position 2
Core 0	On	On
Core 1	Off	On

- 2 For AC-powered systems only, install the new MPDU, which is part of the CP PIV Upgrade kit, to the side on the NT4N40 card cage. The screws that secure the MPDU are accessible from the power supply slot. See Figure 23.

Figure 23
Location of the screws for the MPDU



Note: Pre-thread the two bottom mounting screws at the back of the Core/Net shelf.

- 3 Check that the power harness at the right rear corner of the card cage has been transferred from the old card cage to the CP card cage.

- 4 Slide the CP card cage halfway into the module
- 5 Hold the card cage firmly and make the following connections at the rear of the module:
 - a. In AC-powered systems, connect the remaining module power connectors to J2 on the MPDU. Then plug the module power cable (the short harness attached to the module power connector) into connector J3 on the MPDU (attached to the side of the card cage).

**CAUTION****Damage to Equipment**

Check for and remove any debris (such as screws) that fell into the base of the UEM module.

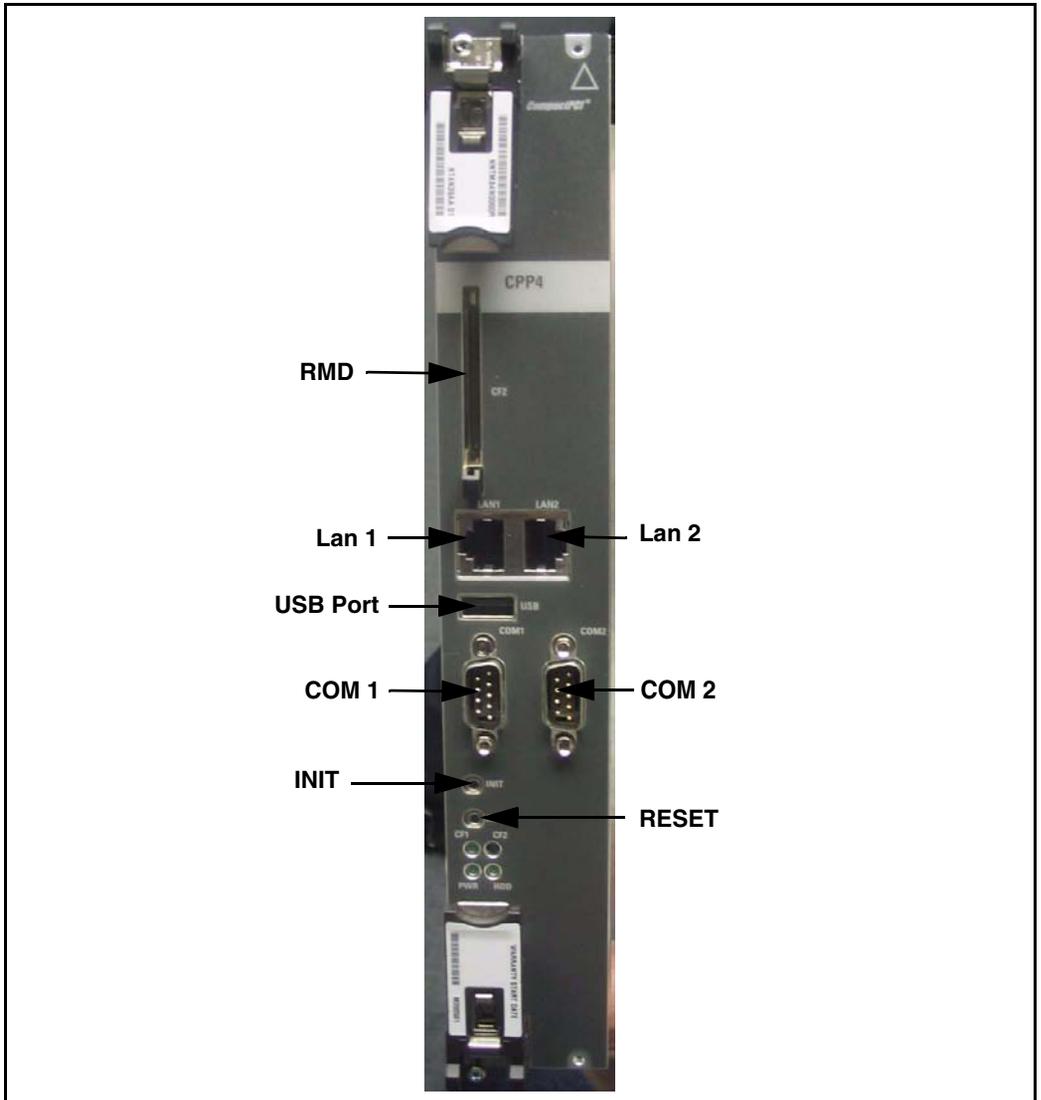
- b. In DC-powered systems, connect the module power connectors to each other.
 - c. Attach the system monitor ribbon cables:
 - i. Connect the ribbon cable that goes down to the pedestal to connector J1 on the backplane.
 - ii. Connect the ribbon cable that goes up the column to J2 on the backplane.
 - d. Attach the green ground wire to the frame ground bolt on the module. (a 11/32" socket wrench is used to attach the wire.) Remove the nut and the lock washer at the top of the bolt. Put the frame ground wire terminal over the bolt. Reinstall the top lock washer and the nut, then tighten down the nut.

Note: For all of the wire terminals to fit on the bolt, remove one of the lock washers. Leave a lock washer at the bottom of the bolt and at the top of the bolt. Leave a third lock washer between the second and third, or the third and fourth, wire terminals.
 - e. Attach the orange logic return wire. Remove one nut and the lock washer from the LRTN bolt at the rear of the card cage. Put the wire terminal over the bolt, reinstall the lock washer and nut, then tighten down the nut. (You need a 1/4" or 2/8" socket wrench.)
- 6 Slide the card cage all the way into the module.

- 7** Check the position of the EMI shield. If the EMI shield has shifted, reposition it. Remove the tape holding the EMI shield.
- 8** Secure the card cage and EMI shield to the module re-using the existing screws.
- 9** Secure the card cage and EMI shield to the module re-using the existing screws.
- 10** Route cable NT4N90BA from LAN 1 on the CP PIV faceplate to J31 (top) of the I/O panel.

End of Procedure

Figure 24
CP PIV call processor card (front)



Install the Security Device

Procedure 21 Installing the Security Device

The Security Device fits into the System Utility card (see Figure 25 on [page 105](#)).

To install the Security Device:

- 1 If the original system had an IODU/C, remove the Security Device from the IODU/C for reuse.
 - a. Unlock the latches and remove the IODU/C card.
 - b. Remove the round 1/2" diameter IODU/C Security Device from the round black Security Device holder on the top right corner of the IODU/C card.

OR

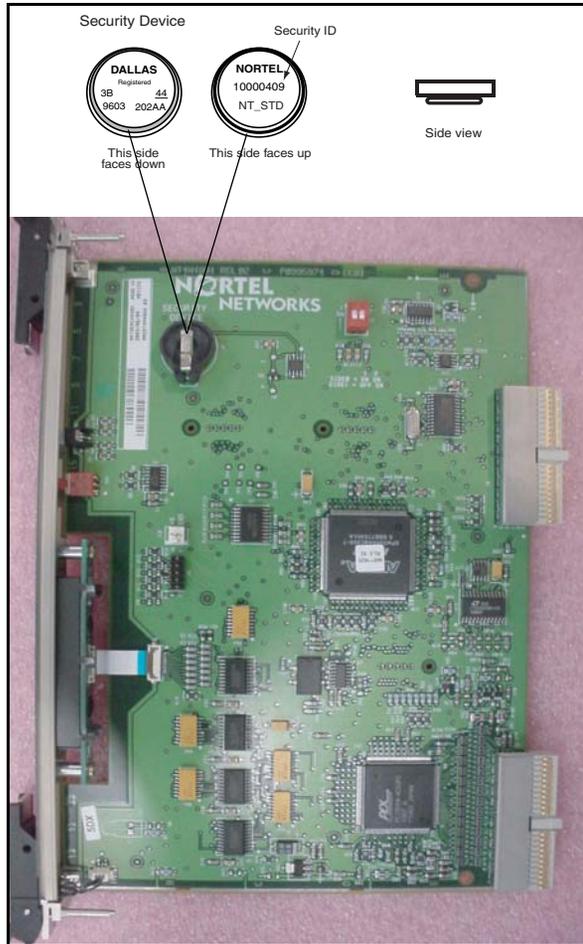
If the original system did not have an IODU/C, use the Security Device provided with the CP PIV Software kit.

Insert the Security Device into the Security Device holder on the System Utility card with the "Nortel" side facing up. Do not bend the clip more than necessary.

- 2 Check that the Security Device is securely in place.

End of Procedure

Figure 25
Security Device



Relocate network cards to Core/Net 0

Procedure 22

Relocating Network cards to CP Core 0

- 1 Remove all network cards from the previous Core 0 Core/Net shelf
- 2 When you move the 3PE card, check the switch settings and jumpers. See Table 16.
 - a. All 3PE cards must be vintage F or later.
 - b. Check that the RN27 Jumper is set to "A".
 - c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 16 shows the 3PE settings for cards installed in CP PIV Core/Net Modules.
- 3 Reinstall each removed card in the same network slot in the CP PIV Core/Net 0.
- 4 Connect the tagged cables to the relocated cards.

Table 16

QPC441 (QPC440) 3PE Card installed in the CP PIV Core/Net modules

Jumper Settings: Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
CP PIV Core/Net modules only		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off

————— **End of Procedure** —————

Procedure 23
Moving Clock Controller 0**CAUTION****Service Interruption**

Move only Clock Controller 0 at this point in the upgrade.

- 1 Label and disconnect the Clock Controller 0.
- 2 Disconnect the NT8D76AC cable from the Clock Controller 0 faceplate card.
- 3 If primary and secondary clock reference cables are connected to the Clock Controller 0 faceplate, disconnect them last.
- 4 Set the Clock Controller 0 switch settings according to Table 17 on [page 108](#) (QPC471H, QPC771H) and Table 18 on [page 109](#) (NTRB53).
- 5 Disable any ISDN PRI card in the Core module.



The active side Core/Net 1 registers all Network cards in Core/Net 0 as disabled.

- 6 Place Clock Controller 0 in Group 0 Network Shelf 0, slot 9.
- 7 Seat the Clock Controller 0 and faceplate-enable the card.

8 Reconnect all reference cables and clock-to-clock cables.

Table 17
Clock Controller switch settings for QPC471H, QPC771H

Systems upgraded to CP PIV must use the Meridian 1 Option 61C CP PIV switch settings to enable Clock Hunt software. Use the settings in this table.											
SW1				SW2				SW4			
1	2	3	4	1	2	3	4	1	2	3	4
on	on	on	on	off	off	off	off	**	on	*	*
*Total cable length between the J3 faceplate connectors:											
0–4.3 m (0–14 ft.)										off	off
4.6–6.1 m (15–20 ft.)										off	on
6.4–10.1 m (21–33 ft.)										on	off
10.4–15.2 m (34–50 ft.)										on	on
** Set to ON for Clock Controller 0. Set to OFF for Clock Controller 1.											

Table 18
Clock Controller switch settings for NTRB53

Multi-group Single group	Machine Type #1	Faceplate Cable Length CC to CC			Side Number	Machine Type #2
		3	4			
1	2	3	4		5	6
Multi-group = Off Single group = On	21E = Off 51, 61, 51C, 61C 71, 81, 81C = On	Off	Off	0-14 Ft.	Side 0 = On Side 1 = Off	71,81 = Off 21E, 51, 51C, 61. 61C, 81C = On
		Off	On			
		On	Off			
		On	On			

————— End of Procedure —————

Cable Core 0

Inspect the NT4N29 cables

The NT4N29 cables must be installed for existing Network group 0. If the system has XSDI cards, reinstall the cards and attach the cables. See Figure 26 on [page 110](#).

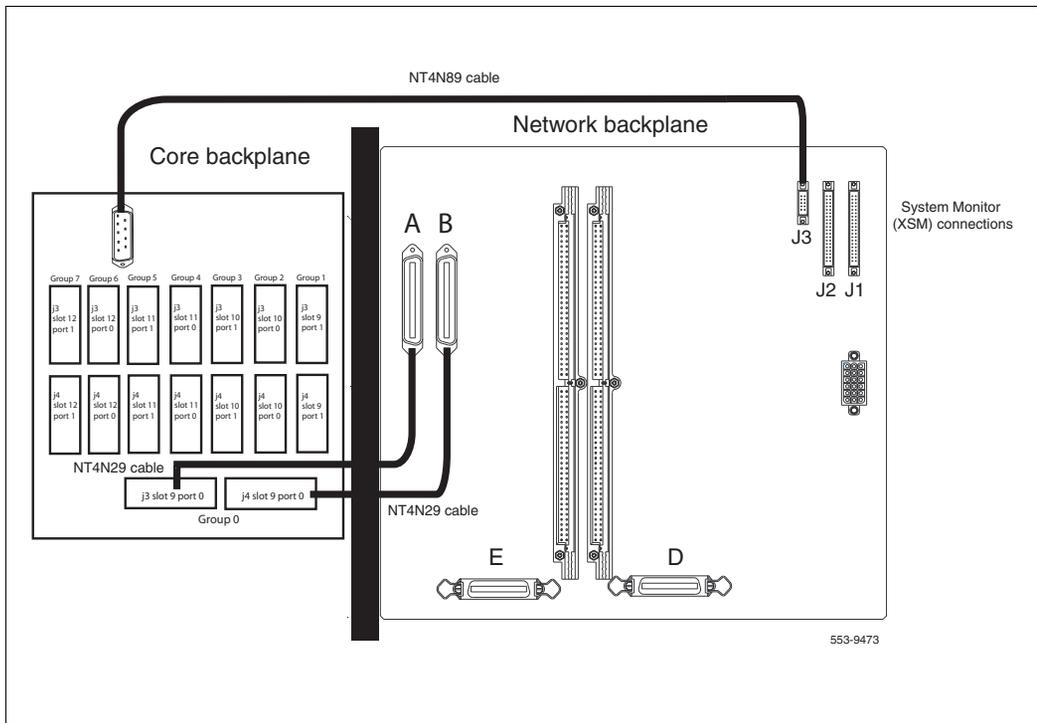
Install intermodule cables

Procedure 24

Installing intermodule cables

- 1 Locate and unpack the NT8D99AD and NT8D80BZ cables.
- 2 Install NT8D99AD cables between the D connectors on the backplane of each Core/Net module. Install another NT8D99AD cable between the E connectors on the backplane of each Core/Net module (see Figure 26 on [page 110](#)).

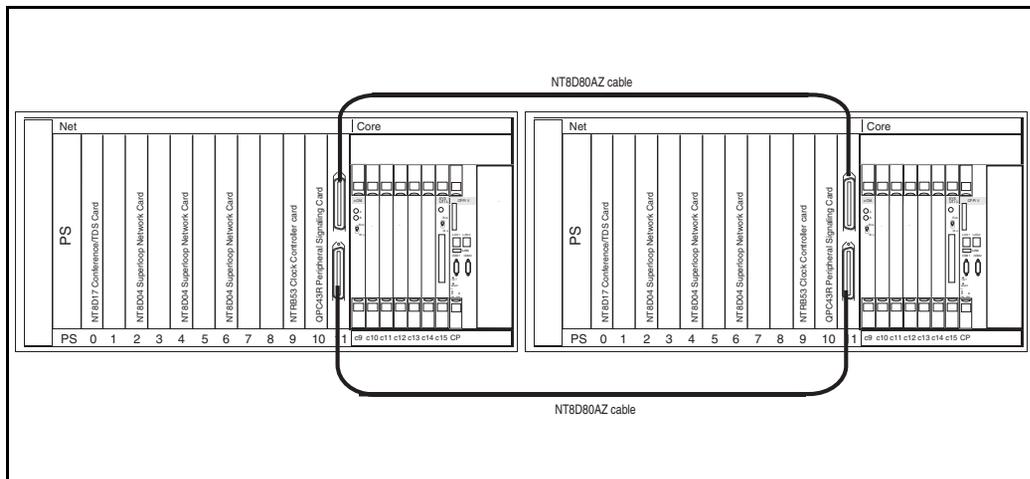
Figure 26
Fanout Panel connections on the CP Core/Net backplane



- 3** Install an NT8D80BZ cable between the J3 connector on the 3PE card in Core/Net 0 and the J3 connector on the 3PE card in Core/Net 1. Install another cable between the J4 connectors on the 3PE cards (see Figure 27 on [page 111](#)).

End of Procedure

Figure 27
3PE card connections



Unpack and install the power supply

Procedure 25

Installing the NT6D41CA (DC) or NT8D29BA (AC) power supply

- 1 Unpack the power supply.
- 2 Faceplate-disable the power supply.
- 3 Insert the power supply into the Core/Net module power supply slot.

————— End of Procedure —————

Connect LAN 1

The LAN 1 port is used to enable redundancy features between the two Core/Net modules. LAN 1 can also be connected to a local area network (LAN) for use with LAN based administration tools.

Figure 28 on [page 113](#) shows the options for the LAN 1 connections.

Procedure 26

If the system is connected to a LAN

- 1** Connect the Dual Ethernet Adapter (RJ-45) for I/O Panel (NTRE40AA) to J31. Secure the adapter to J31 with the two screws included in the shipment. Insert the adapter from the inside of the I/O panel.
- 2** Connect LAN 1 (Ethernet) on the CP PIV faceplate to J31 (top) of the I/O panel with cable NT4N90BA. This connection can only be made *after* the Dual Ethernet Adapter is installed (see step 1 above).
- 3** Connect J31 to a LAN switch.

Note: If a LAN switch is not available, connect J31 of Core 0 to J31 of Core 1 by the NTRC17BA cable.

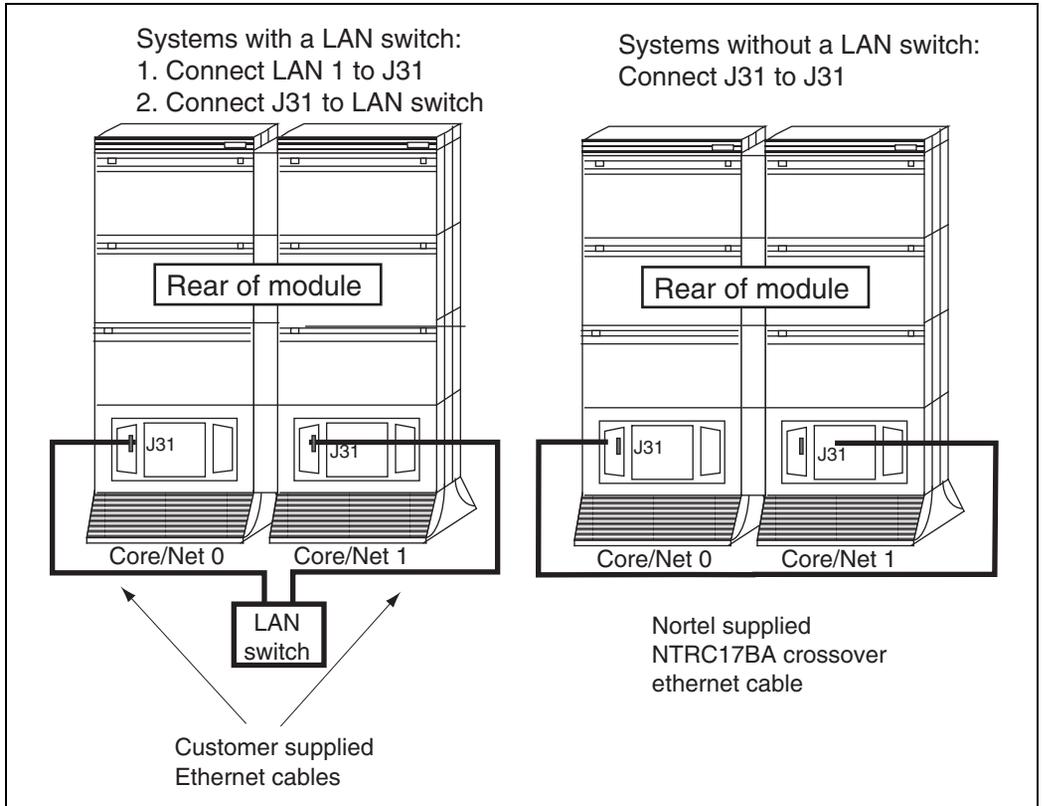
End of Procedure

Connect LAN 2

Connect the NTR17BA Ethernet crossover cable from LAN 2 on the CP PIV card in Core 0 to the LAN 2 connection of the CP PIV card on Core 1.

This NTR17BA cable runs between the faceplates of the CP PIV cards and is run through the front cable tray.

Figure 28
Options for LAN 1 connection



Power up Core 0

Procedure 27 Preparing for power up

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

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

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

- 3 Check the terminal settings as follows:
 - a. 9600 baud
 - b. 8 data
 - c. parity none
 - d. 1 stop bit
 - e. full duplex
 - f. XOFF

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

- 4 Faceplate-enable all core and network cards.

End of Procedure

Power up Core cards

Procedure 28

Powering up core cards

- 1 For AC-powered systems (NT8D29BA): set the MPDU circuit breaker located at the left end of the module to ON (top position).
- 2 For DC-powered systems: faceplate-enable the NT6D41CA power supply and then set the breaker for the Core 0 module in the back of the column pedestal to ON (top position).
- 3 10 seconds after power up of Core/Net 0, press the INI button on Core/Net 1.
- 4 Wait for the system to load and initialize.



Core/Net 1 is now active. All network cards in Core/Net 0 and Core/Net 1 are enabled. Call processing is resumed.

End of Procedure

Test Core/Net 1

Procedure 29

Testing Core/Net 1

- 1 Check dial-tone.
- 2 Test the clocks:
 - a. Verify that the clock controller is assigned to the *active* Core.

LD 60	Load program
SSCK x	Get 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
****	Exit program

- 3 Stat D-channels:

LD 96	
STAT DCH	Stat all D-channels
****	Exit program

- 4 Stat all T1 interfaces:

LD 60	
STAT	Stat all DTI and PRI
****	Exit program

5 Stat network cards:

LD 32

STAT x x = loop number

******** Exit program

6 Print status of all controllers:

LD 97

REQ PRT

TYPE XPE (returns status of all controller cards)

******** Exit program

7 Make internal, external and network calls.

8 Check attendant console activity.

9 Check DID trunks.

10 Check applications.

End of Procedure

CS 1000 Release 7.0 upgrade

Upgrading the software on Core/Net 1

Procedure 30 on [page 116](#) outlines the steps involved in installing CS 1000 Release 7.0 for the CP PIV processor.

Procedure 30

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...
```



```

                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 127](#).

```
Do you want to install Dependency Lists?
    Please enter:
<CR> -> <y> - Yes, Do the Dependency Lists installation
        <n> - No, Continue without Dependency Lists installation
    Enter choice>

    The default choice is YES as shown in the prompt.

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

    Are you sure?
    Please enter:
<CR> -> <n> - No, Go to the Dependency List menu
        <y> - Yes, Go to the next menu
    Enter choice>

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

Enable Automatic Centralized Software Upgrade (CSU) Feature?
Please enter:
<CR> -> <y> - Yes
        <n> - No
    Enter choice>
```

14 Select to enable/disable CSU option.

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

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

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

```
Set Automatic Centralized Software Upgrade Mode to:

Please enter:
<CR> -> <1> - Sequential
        <2> - Simultaneous
Enter choice>
>Processing the install control file ...
>Installing release 0600x
```

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

```
*****
PSDL INSTALLATION MENU

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

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

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

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

>Copying new PSDL ...
```

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

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

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

```
Please enter:
<CR> -> <y> - Yes, start upgrade.
           <n> - No, stop upgrade. Return to the Main
Menu.

           Enter choice>
>Checking system configuration
You selected to upgrade Software release: XXXX to
release: xxxx. This will erase all old system
files.
This will create all necessary directories and
pre-allocate files on the hard disk.
You may continue with software upgrade or quit
now and leave your software unchanged.
Please enter:
           <CR> -> <a> - Continue with upgrade.
           <q> - Quit.
           Enter choice>
```

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

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

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.

Please press <CR> when ready ...

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

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

```

                I N S T A L L   M E N U

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

Please enter:

<CR> -> <a> - To install Software, CP-BOOTROM.
        <b> - To install Software, Database,
CP-BOOTROM.
        <c> - To install Database only.
        <d> - To install CP-BOOTROM only.
        <t> - To go to the Tools menu.
        <k> - To install Keycode only.

                For Feature Expansion, use OVL143.

<p> - To install 3900 set Languages.
<q> - Quit.

Enter Choice> q
```

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

```
You selected to quit. Please confirm.

Please enter:

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

        <n> - No, DON'T quit.

Enter choice> <CR>

You selected to quit the Install Tool.

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

-----

DO NOT REBOOT USING RESET BUTTON!!!

-----

Please enter:

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

        <m> - Return to the Main menu.

Enter Choice> <CR>

>Removing temporary file "/u/disk3521.sys"
>Removing temporary file "/u/disk3621.sys"
>Rebooting system ...
```

At this point the system reloads and initializes.

End of Procedure

Verifying the upgraded database

Procedure 31

Verifying the upgraded database

- 1 Print ISSP (system software issue and patches)

LD 22 Load program

REQ ISSP

******** Exit program



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

End of Procedure

Making the system redundant

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

Procedure 32

Making the system redundant

- 1 Attach the LAN 1 and LAN 2 cables to the CP PIV faceplate connectors on Call Server 0 and Call Server 1.
- 2 Enter LD 135 and issue the JOIN command. The high speed pipe (HSP) status is now up. This begins the synchronization of the Call Servers.

LD 135 Load program

JOIN Join the 2 CPUs together to become redundant

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

LD 135

STAT CPU Get status of CPU and memory

**** Exit the program

```
.stat cpu

cp 0 16 PASS -- STDBY

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar 3 2005, 16:26:40
  Side = 0, DRAM SIZE = 512 MBytes

cp 1 16 PASS -- ENBL

TRUE REDUNDANT
DISK STATE = REDUNDANT
HEALTH = 20
VERSION = Mar 3 2005, 16:26:40
  Side = 1, DRAM SIZE = 512 MBytes
```

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

LD 135

STAT HEALTH Get status of CPU and memory

**** Exit the program

```
.stat health
Local (Side 0, Active, Redundant):
Components without TIER 1 Health contribution:
=====
    disp 0 15 1:In Service
    sio2 0 15 1:In Service
        cp 0 16:In Service
            ipb 0:In Service
TIER 1 Health Count Breakdown:
=====
    sio8 0 16 1: 0002
    sio8 0 16 2: 0002
        sutl 0 15: 0002
            strn 0 15: 0002
    xsmp 0 15 1: 0002
    cmdu 0 16 1: 0008
        eth 0 16 0: 0002
Local TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:
=====
ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2

Local AML over ELAN Total Health:4
Local Total IPL Health = 6

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

Local TIER 2 Health Total:10

Remote (Side 1, Inactive, Redundant):
Components without TIER 1 Health contribution:
    disp 1 15 1:In Service
    sio2 1 15 1:In Service
        cp 1 16:In Service
            ipb 1:In Service

TIER 1 Health Count Breakdown:
    sio8 1 16 1: 0002
    sio8 1 16 2: 0002
    sutl 1 15: 0002
    strn 1 15: 0002
    xsmp 1 15 1: 0002
    cmdu 1 16 1: 0008
    eth 1 16 0: 0002

Remote TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:
=====
ELAN 16 IP : 47.11.138.150 Health = 2
ELAN 17 IP : 47.11.138.153 Health = 2

Remote AML over ELAN Total Health:4
Remote Total IPL health = 6

Remote TIER 2 Health Total:10
```



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

Completing the CP PIV upgrade

LD 137

The CMDU/MMDU commands are not applicable to CP PIV. Instead, the following commands are introduced 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 33 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 Core/Net 1, perform these tests:

1 Perform a redundancy sanity test:

- LD 135** Load program
- STAT CPU** Get status of CPU and memory
- TEST CPU** Test CPU

2 Check the LCD states:

- a.** Perform a visual check of the LCDs.
- b.** Test LCDs:

- LD 135** Load program
- DSPL ALL**

3 Test the System Utility cards and the cCNI cards:

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

4 Test system redundancy:

LD 137	Load program
TEST RDUN	Test redundancy
DATA RDUN	Test database integrity

5 Install the two system monitors. Test that the system monitors are working:

LD 37	Load program
ENL TTY x	Enable the XMS, where 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 displays on the cores
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

7 Test the clocks:

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

LD 60 Load program

SSCK *x* Get status of the clock controllers (*x* is “0” or “1”
for Clock 0 or Clock 1)

SWCK Switch the Clock (if necessary)

******** Exit program

8 Verify that the Clock Controllers are switching correctly:

SWCK Switch Clock

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

SWCK Switch Clock again

9 Check applications.

10 Check dial tone.

End of Procedure

Switch call processing

Procedure 34 Switching call processing

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

LD 135

SCPU	Switch cores
****	Exit program

- 2 After Call Server 0 initializes, log in to Call Server 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.

Procedure 35 Testing Core/Net 0

From Core/Net 0, perform these tests:

- 1 Perform a redundancy sanity test:

LD 135	Load program
STAT CPU	Get status of CPU and memory
TEST CPU	Test CPU

- 2 Check the LCD states:

a. Perform a visual check of the LCDs.

3 Test the System Utility cards and the cCNI cards:

LD 135 Load program

STAT SUTL Get the status of the System Utility card

TEST SUTL Test the System Utility card

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

TEST CNI c s Test cCNI (core, slot)

4 Test system redundancy:

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 Install the two system monitors. Test that the system monitors are working:

LD 37 Load program

ENL TTY x Enable the XMS, where 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 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>	Get 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

8 Verify that the Clock Controllers are switching correctly:**SWCK** Switch Clock

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

SWCK Switch Clock again**9** Check applications.**10** Check dial tone.

End of Procedure

Switch call processing

Procedure 36 Switching call processing

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

LD 135

SCPUR Switch cores
**** 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.



Core/Net 1 is now the active call processor.

Perform a customer backup data dump (upgraded release)

Procedure 37 Performing a data dump to back up the customer database:

- 1 Log in to 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.
.

- 4 When EDD000 appears on the terminal, enter:

EDD Begin the data dump.



CAUTION

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

End of Procedure

Installing a Signaling Server

Contents

This chapter contains the following topics:

Introduction	147
Signaling Server task flow	148
Readiness checklist	150
Server card hardware installation	152
Connections	166
Installing the software	175

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.

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.

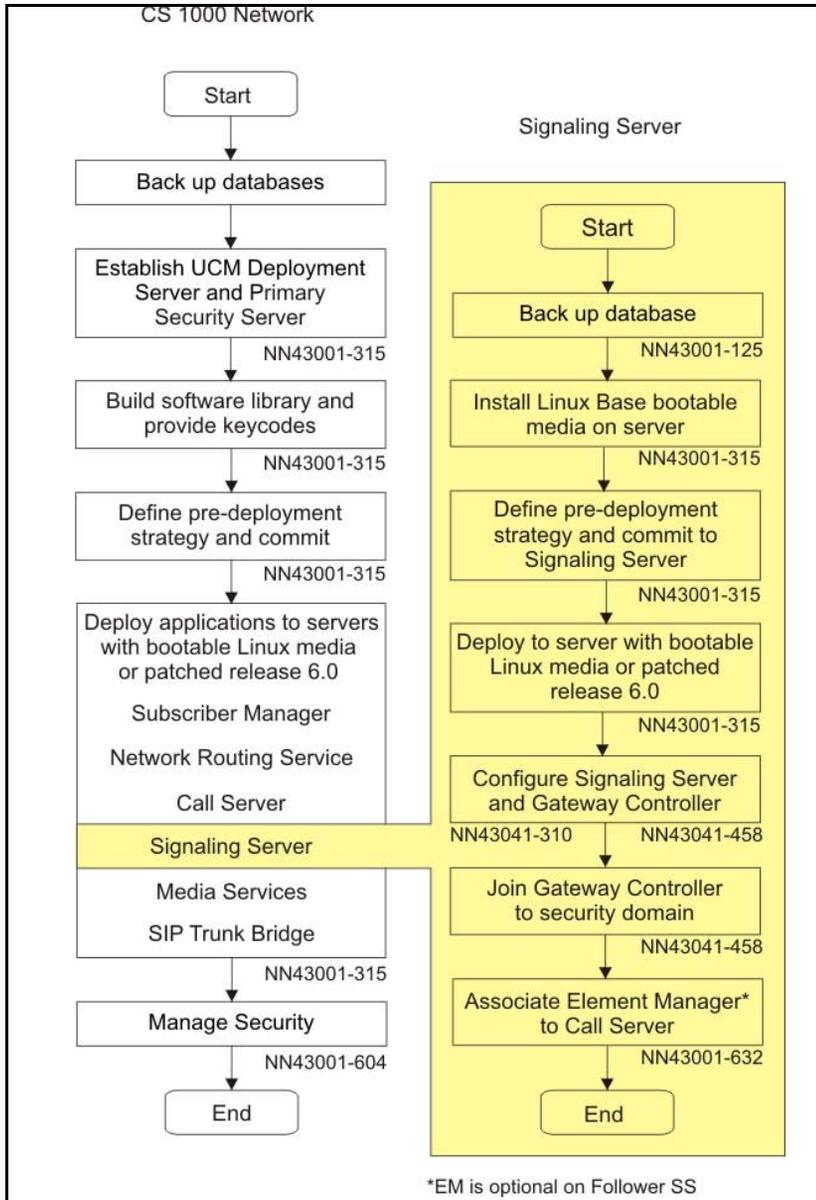
Signaling Server task flow

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 29 on [page 149](#):

- *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 29
Signaling Server task flow



Readiness checklist

Before installing a CP PM or COTS 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 19
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?	
<p>For COTS servers:</p> <ul style="list-style-type: none"> • 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 <p>For a Server cards (NTDW66 CP PM, and NTDW54 CP DC)</p> <ul style="list-style-type: none"> • (CP PM only) NTM427CBE6: CP PM Signaling Server Linux Upgrade kit, which includes <ul style="list-style-type: none"> — 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) <p>Note: Save the packaging container and packing materials in case you must ship the product.</p>	
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 19
Readiness checklist (Part 2 of 2)

Have you:	
Check for correct grounding facilities?	
Obtained the following <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> — 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 38
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 30.

Figure 30
NTDW69AAE5 Cabling Kit contents

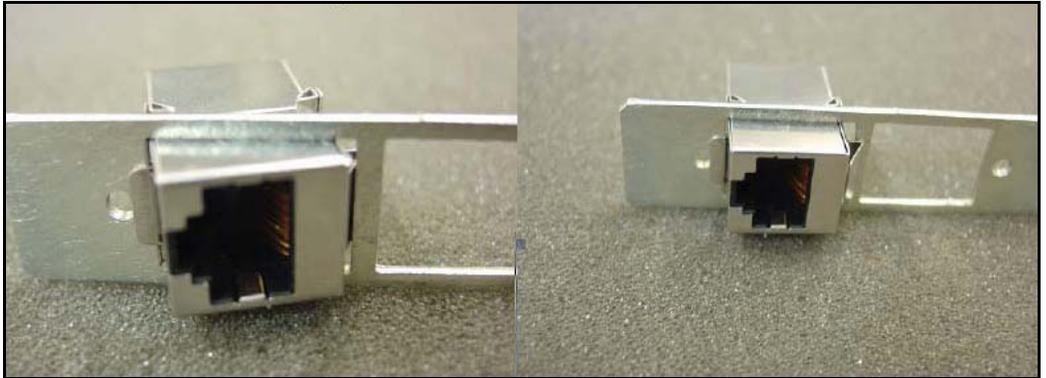


The following is a list of items in the NTDW69AAE5 cabling kit:

- 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

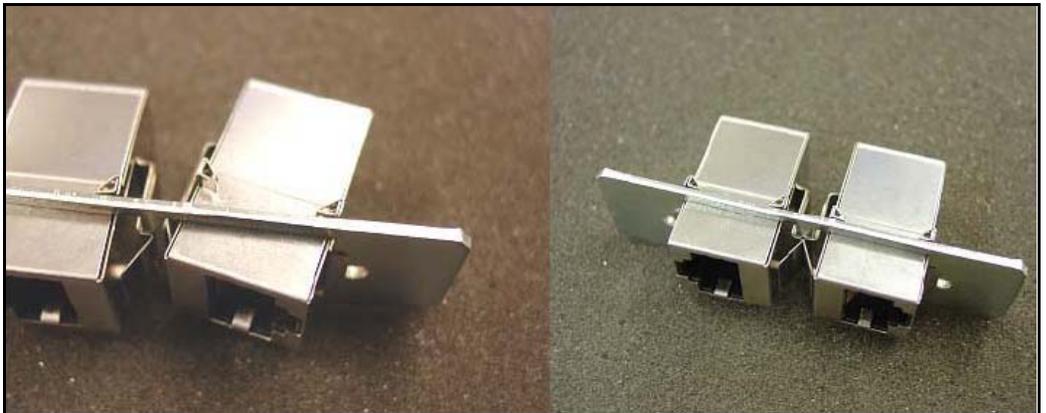
- 2 Insert an Ethernet port coupler into the adapter plate. See Figure 31.

Figure 31
One Ethernet port coupler in adapter plate



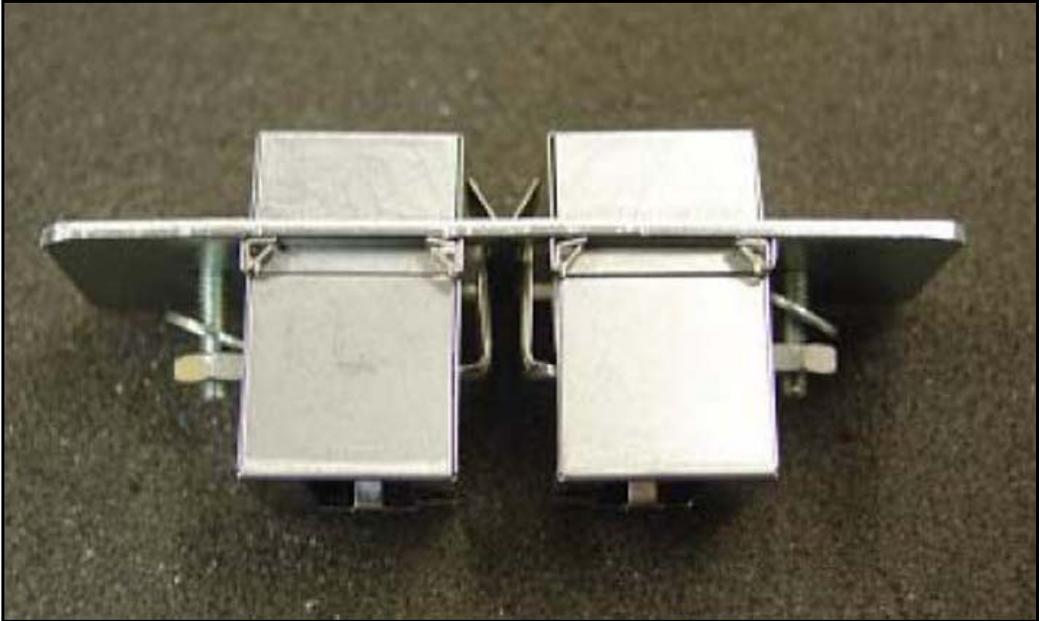
- 3 Insert the other Ethernet port coupler into the adapter plate. See Figure 32 on page 155.

Figure 32
Two Ethernet port couplers in adapter plate



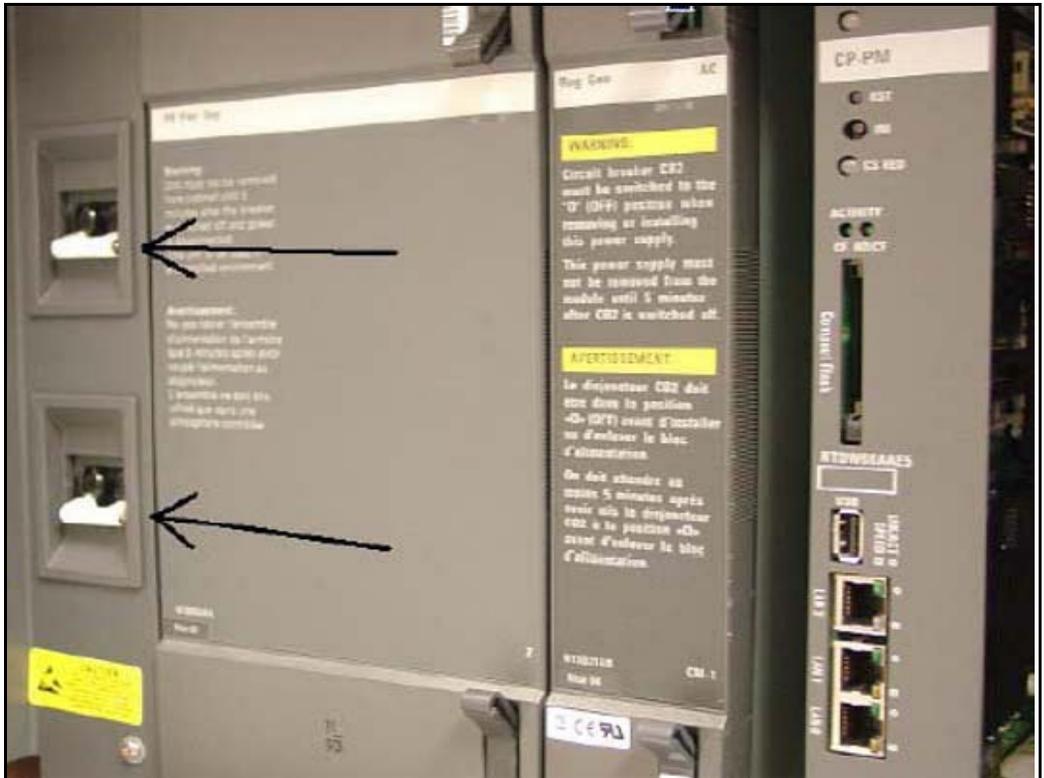
- 4 Loosely attach screws, washers, and nuts to the Ethernet port adapter plate. See Figure 33.

Figure 33
One Ethernet port coupler in adapter plate



- 5 Switch off the UEM power supplies. See Figure 34.

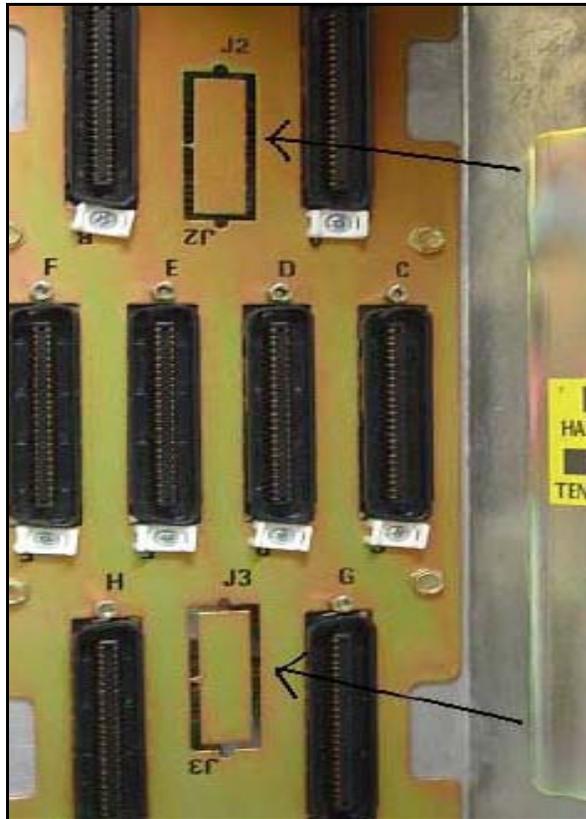
Figure 34
Shut down UEM power supplies



- 6 Select one of the J2-J5 knock-out plates on the back of the UEM. See Figure 35.

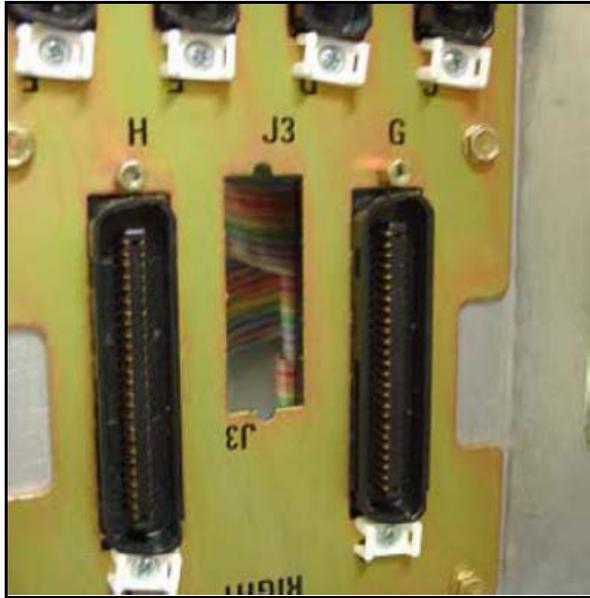
Note: For DC powered systems, turn off the breakers in the pedestal not on the shelf.

Figure 35
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 36.

Figure 36
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 37 and Figure 38.

Figure 37
ELAN connection on the CP PM faceplate

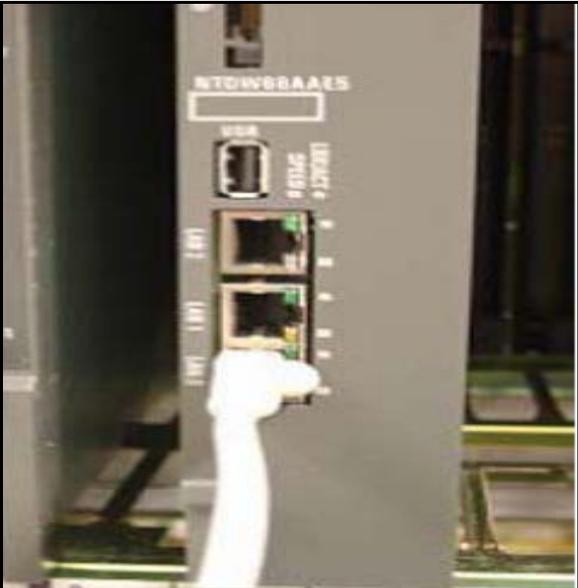


Figure 38
ELAN connection on Ethernet port coupler



- 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 39 and Figure 40.

Figure 39
TLAN connection on the CP PM faceplate



Figure 40
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 41.

Figure 41
Installed Ethernet port adapter plate



11 Attach the ferrite beads to the Ethernet patch cables. See Figure 42.

Figure 42
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 20
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 38: "Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM" on [page 154](#).)

Perform Procedure 39 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 39

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 38: "Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM" on [page 154](#).)
- 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 38: "Installing ELAN and TLAN Ethernet ports on the back of a Communication Server 1000M UEM" on [page 154](#).)

- 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 43 shows the rear view of the IBM X306m server.

Figure 43
IBM X306m (rear view)

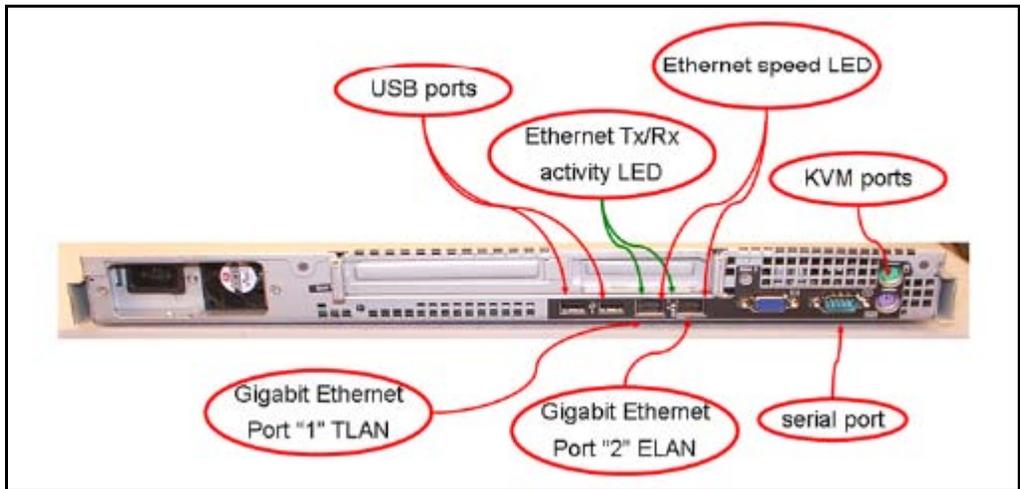
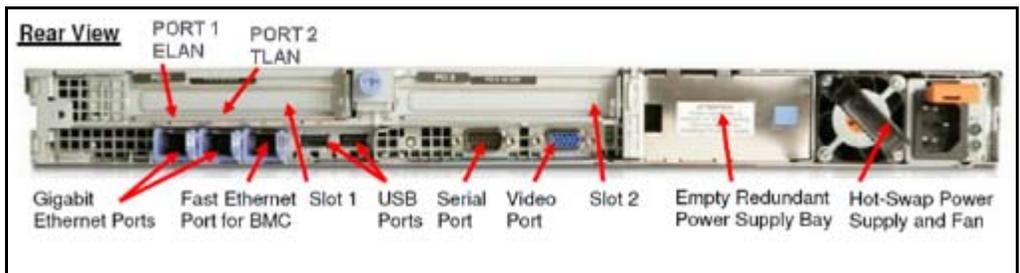


Figure 44 shows the rear view of the IBM x3350 server.

Figure 44
IBM x3350 (rear view)



Note: When you perform Procedure 40, “Connecting an IBM COTS server,” on [page 170](#), see Figure 43 or Figure 44.

Procedure 40
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.

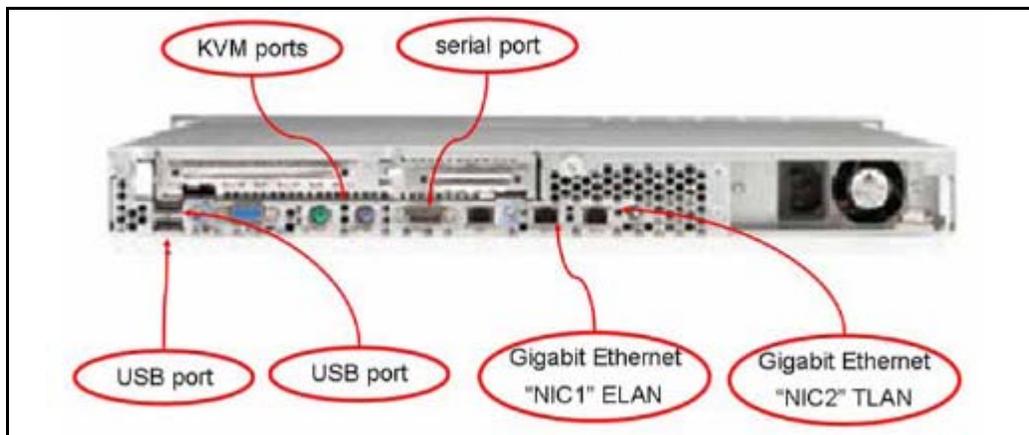
End of Procedure

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 45 shows the rear view of the HP DL320-G4 server.

Figure 45
HP DL320-G4 (rear view)



Note: When you perform Procedure 41, “Connecting an HP COTS server,” on [page 171](#), see Figure 45.

Procedure 41 **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.

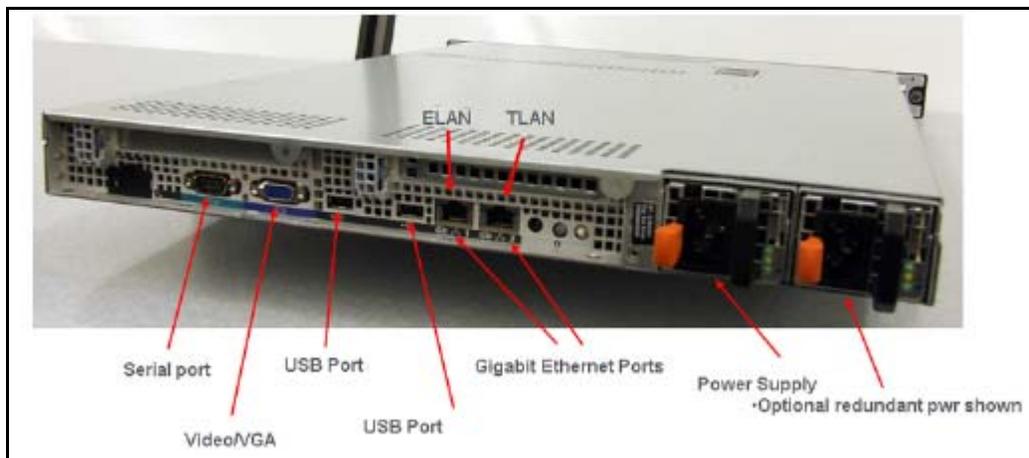
End of Procedure

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 46 shows the rear view of the Dell R300 server.

Figure 46
Dell R300 server (rear view)



Note: When you perform Procedure 42, “Connecting a Dell COTS server,” on [page 173](#), see Figure 46.

Procedure 42 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 166](#).
- 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 43 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 43

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 47 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 48
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 49 appears. Select **Reset CMOS to factory defaults** from the menu.

Figure 49
CP PM BIOS setup

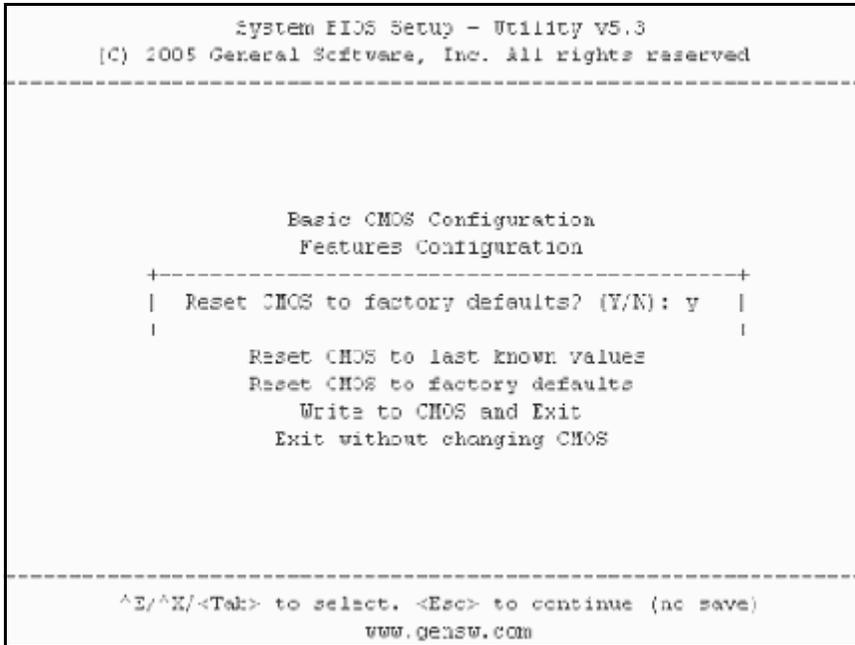
```
System BIOS Setup - Utility v5.1
(C) 2005 General Software, Inc. All rights reserved
-----

Basic CMOS Configuration
Features Configuration
Custom Configuration
PNP Configuration
Start System BIOS Debugger
Reset CMOS to last known values
>Reset CMOS to factory defaults
Write to CMOS and Exit
Exit without changing CMOS

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

10 Figure 50 appears. Press **y** to reset CMOS to factory defaults.

Figure 50
CP PM BIOS reset



- 11 The system reboots. After initial boot Figure 47 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:

Introduction	183
Site details	184
Upgrade details	184
Pre-upgrade checklists	185
Pre-conversion steps	188
Post-conversion checks	190
Quick reference	190

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 21
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 22
Upgrade details

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

Pre-upgrade checklists

Software Upgrade

Software audit

Table 23
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 24
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 25
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 26
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 26
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 27
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		

Pre-conversion steps

Table 28
Pre-conversion 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 28
Pre-conversion steps (Part 2 of 2)

LD 30 LDIS (Verify what is disabled if any)
Get Software Information from LD 22
ISSP - Patches in service - Future Reference if required LD 143 - MDP ISSP -Prints all in service 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

Post-conversion checks

Table 29
Post-conversion 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 30
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 30
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	0
									4	
3	1	1	2	9	2	9	TOP	J14	1	1
									5	
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	0
									8	
4	1	1	2	9	2	9	TOP	J14	1	1
									9	
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 31
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

Table 31
Switch settings (Part 2 of 2)

6	0	1 2	192-20 7	6 0	off on on on off off on on	off on on off off off on on
6	1	1 3	208-23 3	6 1	off on on on off off on off	off on on off off off on off
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:

Nortel Technical Assistance Centers	195
Services available	198
Requesting assistance	201

Nortel Technical Assistance Centers

To help customers obtain maximum benefit, reliability, and satisfaction from their CS 1000M systems, Nortel provides technical assistance in resolving system problems. Table 32 on [page 196](#) 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 32
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 32
Customer Technical Services (Part 2 of 2)

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

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 33 and 34 describe the service classifications.

Table 33
Technical service emergency classifications

Class	Degree of failure	Symptoms
E1	Major failure causing system degradation or outage	<p>System out-of-service with complete loss of call-processing capability.</p> <p>Loss of total attendant console capability.</p> <p>Loss of incoming or outgoing call capability.</p> <p>Loss of auxiliary Call Detail Reporting (CDR) in resale application.</p> <p>Call processing degraded for reasons such as trunk group out-of-service:</p> <ul style="list-style-type: none"> • 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	<p>Standby CPU out-of-service.</p> <p>Frequent initializations (one per day or more).</p> <p>Disk drive failure.</p> <p>Two sets of disks inoperative.</p>

Table 34
Technical services non-emergency classifications

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

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 35 before you call for service.

Table 35
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 33 and 34)	_____
Description of assistance required	_____

Index

B

backup the database, 36

BKO, 36

C

call processing, effect of software upgrades on, 17

conversion media

defined, 17

CTS, contacting, 196

D

data dump, 36

P

printouts

site data, 33

S

single CPU systems

call processing disruptions on, 17

site data printouts

pre-conversion procedure, 33

source software

defined, 17

T

target software, 17

Technical Assistance Centers, 195

terminal

connection and settings, 29

U

Unattended backup (BKO command), 36

Nortel Communication Server 1000

Communication Server 1000M and Meridian 1

51C to CS 1000M SG CP PIV Upgrade

Copyright © 2010 Nortel Networks. All rights reserved.

LEGAL NOTICE

While the information in this document is believed to be accurate and reliable, except as otherwise expressly agreed to in writing NORTEL PROVIDES THIS DOCUMENT "AS IS" WITHOUT WARRANTY OR CONDITION OF ANY KIND, EITHER EXPRESS OR IMPLIED. The information and/or products described in this document are subject to change without notice.

Nortel, the Nortel logo, the Globemark, SL-1, Meridian 1, and Succession are trademarks of Nortel Networks. All other trademarks are the property of their respective owners.

To provide feedback or report a problem in this document, go to www.nortel.com/documentfeedback.

Publication number: NN43021-459

Document release: Standard 04.02

Date: June 2010

