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**Nortel Communication Server 1000**

Nortel Communication Server 1000 Release 5.0

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# **Communication Server 1000M and Meridian 1**

## **61C CP PII to CS 1000M MG CP PII FNF Upgrade**

Document Number: NN43021-464

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## Revision history

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### May 2007

Standard 01.01. This document is up-issued 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 up-issued with corrections from CRs Q01215486 and Q01347637.

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

### September 2004

Standard 2.00. This document is up-issued 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)*.



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# How to get help

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

## Getting help from the Nortel Web site

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

[www.nortel.com/support](http://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](http://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](http://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.

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# System information

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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 on database transfers, Call Processor card upgrades, and network group upgrades.

This document also contains information on converting Release 19.0x or later software to CS 1000 Release 5.0 or later on Meridian 1 Options 51C, 61C, 81, 81C, CS 1000M SG and CS 1000M MG systems. For software conversion procedures prior to Release 19.xx, refer to 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 5.0 software. For more information on legacy products and releases, click the **Technical Documentation** link under **Support** on the Nortel home page:

[www.nortel.com/](http://www.nortel.com/)

## Applicable systems

This document applies to the following systems:

- Communication Server 1000M Half Group (CS 1000M HG)
- Communication Server 1000M Single Group (CS 1000M SG)
- Communication Server 1000M Multi Group (CS 1000M MG)
- Meridian 1 PBX 51C
- Meridian 1 PBX 61C
- Meridian 1 PBX 81
- Meridian 1 PBX 81C

*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 5.0 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 Half Group
Meridian 1 PBX 61C	CS 1000M Single Group
Meridian 1 PBX 81	CS 1000M Multi 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 5.0:

- CP PM Signaling Server
- Commercial Off the Shelf (COTS) Signaling Server
- Intel ISP1100 Signaling Server

For detailed Signaling Server configuration information see Appendix : “Installing a Signaling Server” on [page 121](#).

## Upgrade paths

This document contains information on the following Large System upgrades:

- Meridian 1 Options 51, 61, 71, 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 81
- Meridian 1 PBX 81C

## 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](mailto:gntsdoc@nortel.com) or open a problem report via the normal procedures.

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

## Related information



### **CAUTION — Data Loss**

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

Read the applicable procedures carefully before beginning any the conversion.

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



### **CAUTION WITH ESDS DEVICES**

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

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)
- *Signaling Server: Installation and Commissioning* (NN43001-312)
- *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)
- *IP Line: Description, Installation, and Operation* (NN43100-500)
- *ISDN Basic Rate Interface: Features* (NN43001-580)
- *Software Input/Output: Maintenance* (NN43001-711)
- *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (NN43021-220)
- *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310)

- *Communication Server 1000M and Meridian 1: Large System Maintenance* (NN43021-700)
- *Communication Server 1000M and Meridian 1 Large System Upgrade NTPs* (NN43021-458 – NN43021-475)

## **Online**

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

[www.nortel.com](http://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 221](#).



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## Finding the latest updates on the Nortel web site

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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 5.0, click one of the links below.

<a href="#">Latest Software</a>	Takes you directly to the Nortel page for CS 1000 Release 5.0 software.
<a href="#">Latest Documentation</a>	Takes you directly to the Nortel page for CS 1000 Release 5.0 documentation.



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# Preparing and planning for the upgrade

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## Introduction

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

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

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

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

**Table 2**  
**Prepare for upgrade steps**

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## Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.
- Conduct a site inspection to determine proper power and grounding.

- Review the site profile to determine proper foot space if adding new columns or modules.
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.
- Determine if software can be converted on site or must be sent to Nortel.
- Prepare a contingency plan for backing out of the upgrade.

**DANGER OF ELECTRIC SHOCK**

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

## Upgrade Checklists

Upgrade checklists can be found in “Upgrade checklists” on [page 209](#). Engineers may print this section for reference during the upgrade.

## Preparing

Preparing for an upgrade involves the following tasks:

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

- Verify card vintage requirements of the target platform.
- Determine the current patch or Dep lists installed at the source platform.
- Determine the 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 key code.
- Secure the target software and key code.
- Verify the new key code using the DKA program.
- Print site data.

## Identifying the proper procedure

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



### **IMPORTANT!**

Preserve database backup information for a minimum of 5 days.

## Connecting a terminal

### Procedure 1

#### Connecting a terminal

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

- 1 Connect a terminal to the J25 port on the I/O panel in the *inactive* Core or Core/Net module.
- 2 The settings for the terminal are:
  - a. 9600 baud
  - b. 8 data
  - c. parity none
  - d. 1 stop bit
  - e. full duplex
  - f. XOFF
- 3 If only one terminal is used for both Core or Core/Net modules, the terminal must be connected from side-to-side to access each module. An "A/B" switch box can also be installed to switch the terminal from side to side.

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**End of Procedure**

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## Checking 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”. This setting is made by a set of option switches on the System Utility card. 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 System Utility card (NT4N48) far enough out of its slot so you can see the ID switch settings. See Figure 2 on [page 28](#).
- 2 Check and confirm the switch settings according to Table 3.
- 3 Reinstall the System Utility card.
  - a. Gently slide the 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.

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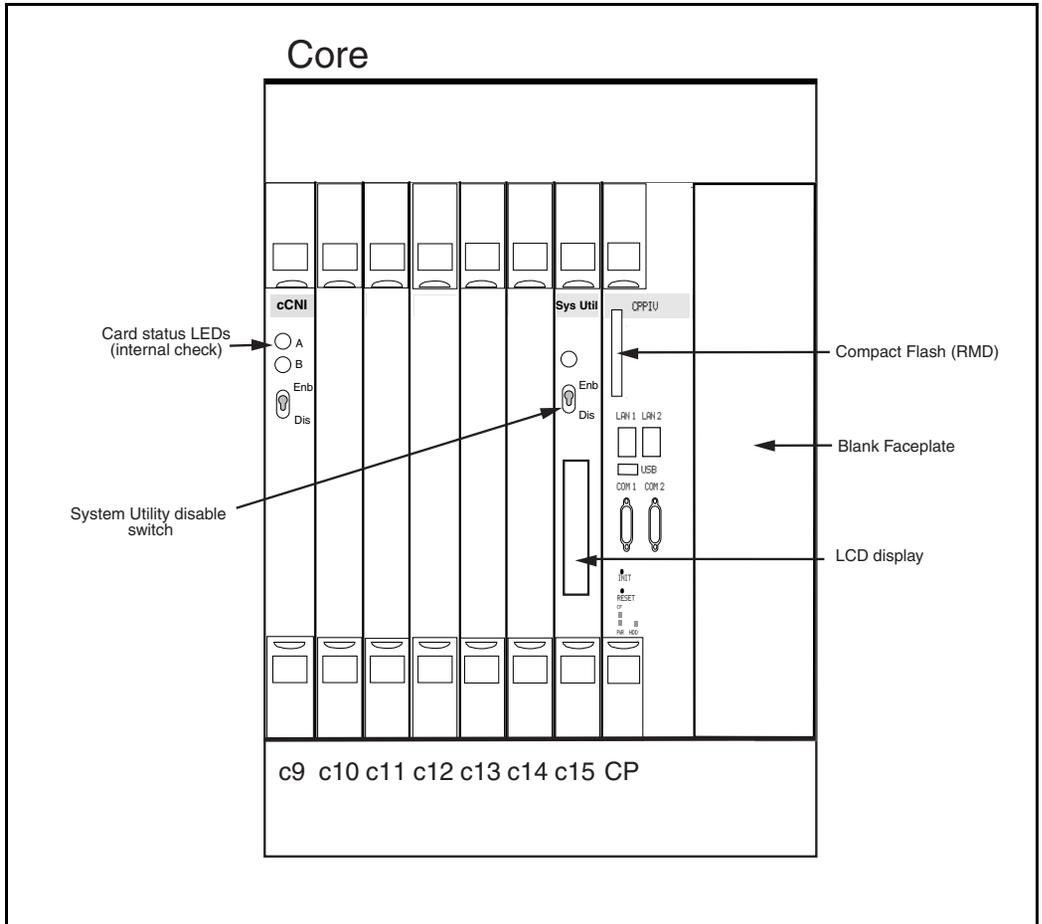
**End of Procedure**

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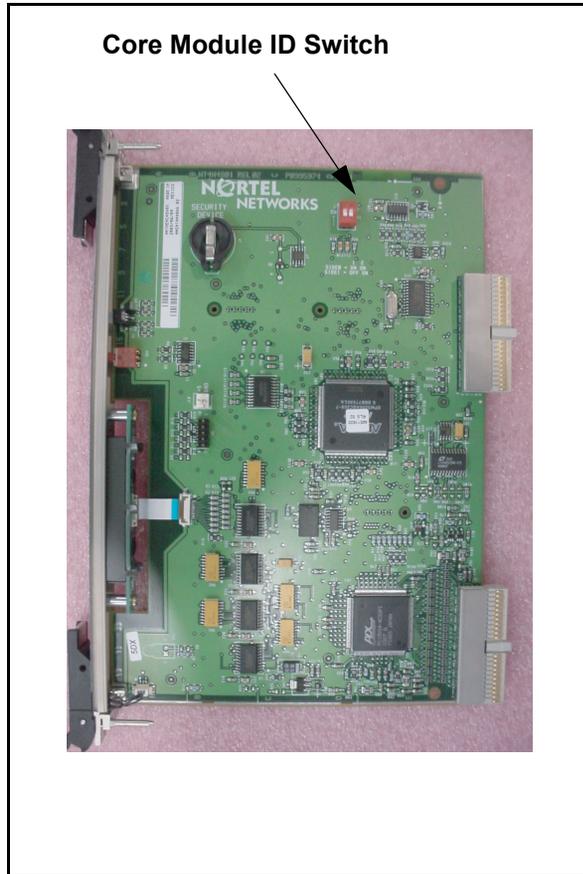
**Table 3**  
**Core module ID switch settings (System Utility card)**

	<b>Position 1</b>	<b>Position 2</b>
Core 0	On	On
Core 1	Off	On

**Figure 1**  
**Core card placement in the NT4N40 Core/Net card cage (front)**



**Figure 2**  
**Core Module ID switch**



## Printing site data

Print site data to preserve a record of the system configuration (see Table 4).  
Verify that all information is correct. Make corrections as necessary.

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

**Table 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  xxx = 96-112 in multiples of four for MG 1000T (See Table 29)
<b>Note:</b> Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

## Performing a template audit

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



## Backing up the database (data dump)

To back up system data, perform a data dump to save all system memory to the hard disk.

### Procedure 3 Performing a data dump

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

**LD 43**            Load program

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

**EDD**            Begin the data dump



#### **CAUTION — Service Interruption**

##### **Loss of Data**

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

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

\*\*\*\*            Exit program

- 5 Remove and label the floppy disk.



#### **IMPORTANT!**

Preserve database backup information for a minimum of 5 days.

————— **End of Procedure** —————

## Identifying two unique IP addresses

If not previously configured, each CP PIV system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

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

## Checking requirements for cCNI to 3PE cables (NTND14)

Existing NTND14 CNI to 3PE cables on Meridian 1 81 and 81C platforms using NT5D21 and/or NTND60 shelves can be reused if they meet the following conditions:



### IMPORTANT!

When configuring NTND14 cables, observe the following rules:

- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

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# Performing the upgrade

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## Adding a Network Group

This upgrade takes an Option 61C CP PII to a CS 1000M MG CP PII with FNF. Additional groups can be added by following the procedures “Adding a Network Group (NT4N46)” and “Adding a Network Group (NT4N40)” in *CS 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458).

## 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 121](#).

## Reviewing upgrade requirements

The target upgrade to CS 1000M MG CP PII with FNF must meet the requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA, and 2000-047 rev1. Highlights include:

- PB requires NTRB53AA Clock Controller
- NT5D12AC, AD, and AG (1.54MB) support
- NT5D97AB, AD (2.0 MByte) support
- Both NTRC46 cables must be the same length



### IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

**IMPORTANT!**

When configuring NTND14 cables, observe the following rules:

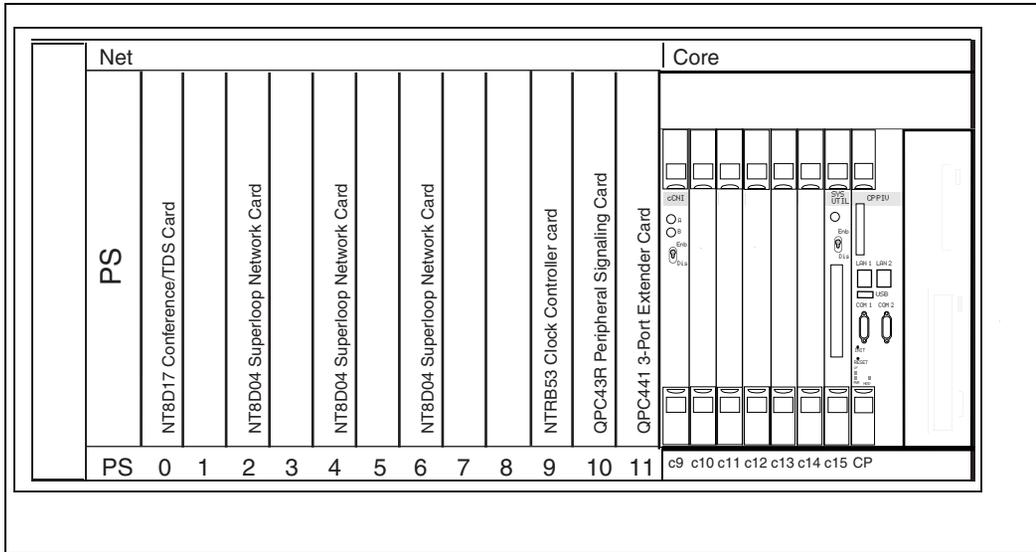
- The shortest NTND14 Cable should always be used.
- A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
- A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.

**Note:** The NTND14 BX 50' cables are manufacture discontinued.

To upgrade a Meridian 1 Option 61C system to a CS 1000M MG CP PII with FNF:

- Clock Controller cards must be NTRB53AA.
- NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

**Figure 3**  
**CP Core/Net Module**



### Check software received

The following software packages are required to upgrade a system to CS 1000M MG CP PII with FNF:

- CORENET Core Network Module Package 299
- CPP\_CNI CP Pentium Backplane for Intel Machine Package 368
- FIBN Fiber Network Package 365
- Software Install Kit, containing the following items:
  - One CD ROM containing:
    - Install Software files
    - CS 1000 Release 5.0 software
    - Dep. Lists ( PEPs)
    - Key code File

- One blank floppy disk for database backup
- One Nortel CS 1000 Release 5.0 Documentation CD

## Check equipment received

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

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



### **CAUTION**

#### **Service Interruption**

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

## Check vintage requirements for existing hardware

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

- The NT4N65AC cCNI card must be minimum vintage of AC.
- The NT4N48 System Utility card must be minimum vintage AA.
- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage AA.
- The existing QPC471 Clock Controller cards must be minimum vintage H or the QPC775 Clock Controller cards (all countries except USA) must be minimum vintage E.
- NT6D41CA (DC) Power Supply
- NT8D29BA (AC) Power Supply
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

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

	<p><b>CAUTION</b></p> <p><b>Service Interruption</b></p> <p>Equipment that does not meet the minimum vintage requirements will cause system malfunctions and loss of call processing.</p>
---	---

Table 5 describes the *minimum* equipment required to upgrade a system to CP PIV. Table 5 on [page 40](#) and Table 6 on [page 42](#) and Table 7 on [page 42](#) list the DC and AC power equipment requirements. Additional equipment for increased Network capacity is ordered separately.

**Table 5**  
**Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 1 of 3)**

Order number	Description	Quantity per system
NT4N39	CP PII Call Processor Card (256 MByte memory)	2
NT4N40AA	CP Core/Network Card Cage AC/DC	2
NT4N65AC	CP Core Network Interface Card (2 ports)	2
NT4N48	CP System Utility Card	2
NT4N88AA	CP to I/O Panel DTE Cable (48 in.)	2
NT4N88BA	CP to I/O Panel DCE Cable (48 in.)	2
NT4N90BA	CP to I/O Panel Ethernet Cable (48 in.)	2
*NT8D01BC	Controller - Four Card	1
*NT8D04BA	Superloop Network Card	
*NT8D17FA	Conference/TDS Card	
*NT8D22AC	System Monitor	
*NT8D41BA	Quad SDI Paddle Board	1

**Table 5**  
**Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 2 of 3)**

<b>Order number</b>	<b>Description</b>	<b>Quantity per system</b>
*NT8D46AD	System Monitor to SDI Cable (60 in.)	1
*NT8D46AL	System Monitor Serial Link Cable (7 ft)	1
*NT8D46AS	System Monitor InterCPU Cable (30 in.)	1
*NT8D80BZ	CPU Interface Cable (5 ft.)	
*NT8D84AA	SDI Paddleboard to I/O Cable (18 in.)	
*NT8D90AF	SDI Multi-Port Extension Cable (10 ft)	
*NT8D91AD	Network to Controller Cable (6 ft)	
*NT8D99AD	CPU to Network Cable (6 ft)	2
NTRB53AA	Clock controller	2
NTRB33	Fiber Junctor Interface (FIJI) Card	Determined by system configuration
NTRC17BA	CP Ethernet to Ethernet Cable (8.5 ft)	2
NTRC46BB	Clock - FIJI Cable (1.7M - 2.4M (5.5 ft - 8 ft))	2
NTRC47AA	FIJI - FIJI Sync Cable	Determined by system configuration
NTRC48XX	FIJI Fiber Ring Cable (2M (6 ft.))	Determined by system configuration
NTRC49AA	Clock - Clock Sync Cable	1
NTRE39AA	Optical Cable Management Card (OCMC)	Determined by system configuration
NTRE40AA	Dual Ethernet Adapter (RJ-45) for I/O Panel	2

**Table 5**  
**Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 3 of 3)**

Order number	Description	Quantity per system
*P0745716	Rear I/O Panel	2
P0605337	CP Card Slot Filler Panel	Determined by system configuration

**Note:** \*Customer supplied from existing system.

### Check required power equipment

Table 6 lists the equipment required for DC-powered systems. Table 7 lists the equipment required for AC-powered systems.

**Table 6**  
**DC power requirements for Meridian 1 Option 81C CP PII with FNF upgrades**

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

**Table 7**  
**AC power requirements for Meridian 1 Option 81C CP PII with FNF upgrades**

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

## Check required tools

Table 8 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed with that procedure.

**Table 8**  
**List of recommended tools**

- Digital Multimeter (DMM)
- Pliers, needlenose
- Pliers, standard
- Screwdriver, 3/16" flat blade
- Screwdriver, #2 Phillips
- Wire cutters
- Electrical insulation tape
- 5/16" socket wrench
- Electric drill and drill bits
- Hammer and sheet metal center punch
- 1/4" socket wrench
- 3/8" socket wrench
- 1/4" nut driver
- 7/16" socket driver
- 11/32 Deep Socket
- Flashlight

## Upgrading Core 1

### Procedure 4 Checking that Core 0 is active

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

- 1 Verify that Core 0 is active.

**LD 135** Load program

**STAT CPU** Get status of the CPUs

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

**SCPU** Switch to Core 0 (if necessary)

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

————— **End of Procedure** —————

### Procedure 5 Checking that Clock Controller 0 is active

- 1 Check the status of the Clock Controllers:

**LD 60** Load program

**SSCK 0** Get the status of Clock Controller 0

**SSCK 1** Get the status of Clock Controller 1

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

**SWCK** Switch to Clock Controller 0 (if necessary)

**DIS CC 1** Disable Clock Controller 1

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

- 3 Faceplate disable Clock Controller 1.

————— **End of Procedure** —————

## Procedure 6 Upgrading Clock Controller 1



### CAUTION

Clock Controller cards must be NTRB53 Clock Controller cards.



### CAUTION — Service Interruption

**Service Interruption occurs if wrong Clock Controller is removed!**

Move only Clock Controller 1 at this point in the upgrade.

Do not move Clock Controller 0 at this time.

If the system has a QPC471 or QPC775 Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in slot 13 of any network shelf other than the Core/Net shelf) and verify settings according to Table 9 on [page 46](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1 Label and disconnect the Clock Controller 1.
- 2 Disconnect the cable from the Clock Controller 1 faceplate.
- 3 If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.
- 4 Remove QPC Clock Controller 1 from the Network Module.
- 5 Set the new NTRB53 Clock Controller 1 switch settings according to and Table 9.

**Note:** If the NTRC49AA cable is used, set switches 3 and 4 to 0-14 feet. If the NTRC49BA cable is used, set switches 3 and 4 to 15-20 feet.

- 6 Place the NTRB53 Clock Controller in slot 13 of any Network shelf. DO NOT seat the Clock Controller 1 and DO NOT faceplate enable the card.

7 Re-connect all reference cables.

**Note:** The Clock Controllers (0 and 1) must be located in Group1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PII is upgraded to more than 2 Network groups, Nortel recommends that Clock Controller 0 and 1 be located in different Network groups.

**Table 9**  
**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	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.)		
<b>Note:</b> Switch 7 and 8 are not used.						

————— End of Procedure —————

**Procedure 7**  
**Splitting the Cores**

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

**LD 135**            Load program

**SPLIT**            Split the Cores

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

- 2 Hardware disable all CNI cards in Core 1.



The system is now in split mode, with call processing on Core 0 with Clock Controller 0 active and IGS in Shelf 0 is active.

---

**End of Procedure**

---

**Procedure 8**  
**Verifying settings for a QPC441 3PE Card**

- 1 When you move the 3PE card, check the switch settings and jumpers. See Table 10 on [page 48](#).
  - a. All 3PE cards must be vintage F or later.
  - b. Check that the RN27 Jumper is set to "A".

**WARNING**

On the QPC441 3PE card, if the RN27 Jumper is not set to "A", the FIJI cards cannot be enabled.

- c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 10 shows the 3PE settings for cards installed in CP Core/Net Modules.

**Table 10**  
**QPC441 3PE Card installed in the NT4N40 Module**

<b>Jumper Settings:</b> Set Jumper RN27 at E35 to "A".									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PII)		1	2	3	4	5	6	7	8
Core/Net 0 (Shelf 0)	Group 0	off	on	on	off	on	on	on	on
	Group 1	off	on	on	off	on	on	off	on
	Group 2	off	on	on	off	on	off	on	on
	Group 3	off	on	on	off	on	off	off	on
	Group 4	off	on	on	off	off	on	on	on
	Group 5	off	on	on	off	off	on	off	on
	Group 6	off	on	on	off	off	off	on	on
	Group 7	off	on	on	off	off	off	off	on
Core/Net 1 (Shelf 1)	Group 0	off	on	on	off	on	on	on	off
	Group 1	off	on	on	off	on	on	off	off
	Group 2	off	on	on	off	on	off	on	off
	Group 3	off	on	on	off	on	off	off	off
	Group 4	off	on	on	off	off	on	on	off
	Group 5	off	on	on	off	off	on	off	off
	Group 6	off	on	on	off	off	off	on	off
	Group 7	off	on	on	off	off	off	off	off

————— **End of Procedure** —————

## Adding Side 1 FIJI hardware

### Procedure 9

#### Adding Side 1 FIJI hardware

Follow the procedures below in sequence:

- 1 Tag and disconnect the IGS/DIGS cables.
- 2 Remove the IGS/DIGs cards from all network group shelf 1 locations.
- 3 Faceplate disable the FIJI cards.
- 4 Insert the FIJI cards in Side 1. **DO NOT seat the FIJI cards.**

**Note:** FIJI cards are installed in slots 2 and 3 of the Network modules, and slots 8 and 9 of the Core/Net modules.

### Procedure 10

#### Connecting the shelf 1 FIJI Ring cables (descending)



#### IMPORTANT!

The shortest Fiber Cable must always be used.

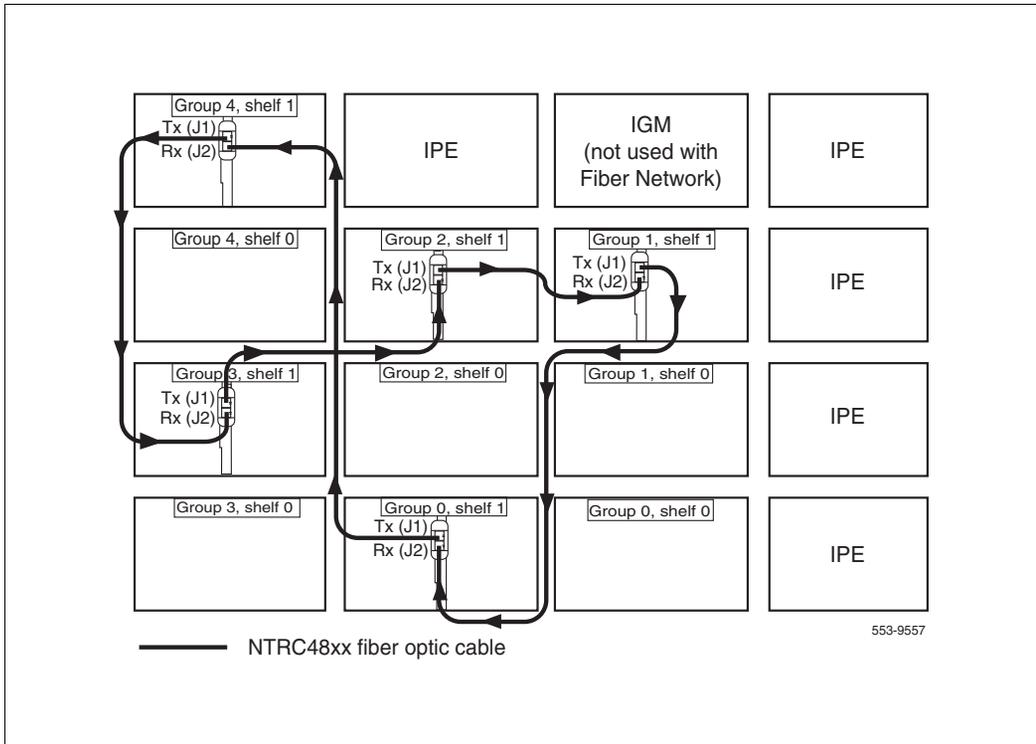
The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Create Fiber Ring 1. Connect the FIJI cards in all Network shelves 1 in **descending** order, from Tx to Rx (see Figure 4 on [page 50](#) and Table 11 on [page 52](#)).

**Figure 4**  
**Shelf 1 descending fiber optic Ring (Meridian 1 Option 81C 5 group example)**



Remove the black cap from the end of each cable before it is connected.

**Note:** Each end of the NTRC48xx cable is labeled “Tx” or Rx” in the factory.

- 1 Start with Network group 0, shelf 1.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 1** to the Rx (J2) port of the FIJI card in the **highest Network group, shelf 1**.
- 3 Connect a NTRC48xx cable from the Tx (J1) port of the FIJI card from the Tx (J1) port in the **highest Network group, shelf 1** to the Rx (J2) port in the **second highest Network group, shelf 1**.

- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 1 of each Network group. Connect these cables in **descending** order of Network groups.

- 5 To complete the Ring, connect a final cable from Tx in **Group 1, shelf 1** to Rx in Group 0, shelf 1.

**Note:** Connect the Side 1 FIJI Ring cables only.

**Table 11**  
**FIJI Ring 1 connections**

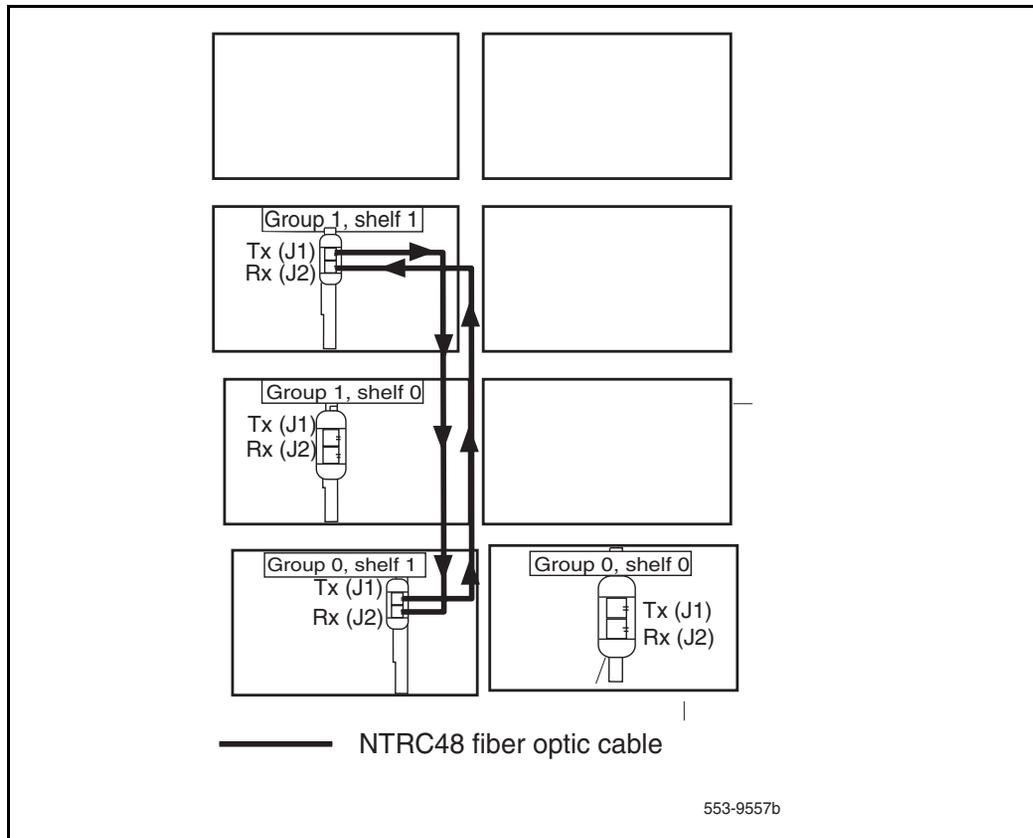
Groups 0 - X are cabled in descending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/1	P1	Tx
7/1	P2	Rx
7/1	P1	Tx
6/1	P2	Rx
6/1	P1	Tx
5/1	P2	Rx
5/1	P1	Tx
4/1	P2	Rx
4/1	P1	Tx
3/1	P2	Rx
3/1	P1	Tx
2/1	P2	Rx
2/1	P1	Tx
1/1	P2	Rx
1/1	P1	Tx
0/1	P2	Rx

---

**End of Procedure**

---

**Figure 5**  
**Shelf 1 descending fiber optic Ring (Meridian 1 Option 81C 2 group example)**



## Cable the Clock Controller 1 to FIJI

### Procedure 11

#### Cable the Clock Controller 1 to FIJI hardware

Connect the cables to the Clock Controller 1 as shown in Figure 6 on [page 54](#).

- 1 Connect J2 of the NTRC49 cable to J1 of the NTRC46 cable.
- 2 Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.

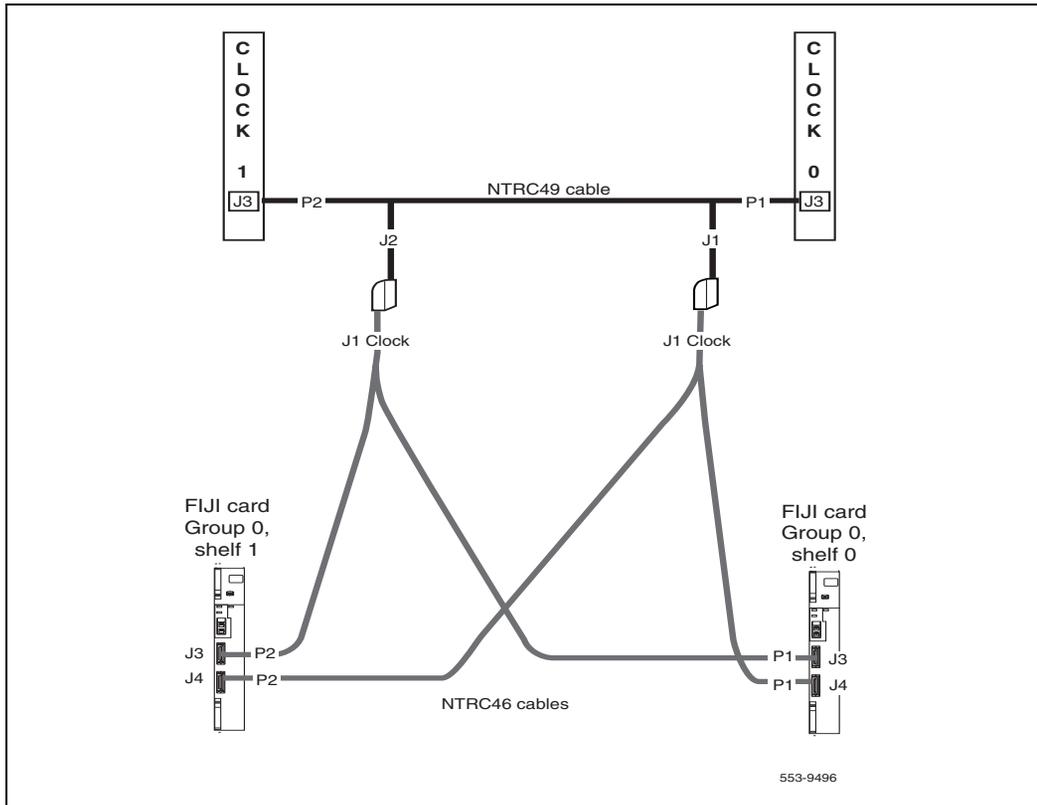
- 3 Connect P2 of the NTRC46 cable from Clock 1 to J3 of the FIJI card in group 0, shelf 1.



**IMPORTANT!**

Both NTRC46 cables must be the the same length.

**Figure 6**  
**Clock Controller cable configuration**



## Preparing for software load on CP PIV

### Procedure 12

#### Setting up the terminal

- 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 the *inactive* Core.

- 3 Check the terminal settings as follows:

- a. 9600 Baud
- b. 8 data
- c. parity none
- d. 1 stop bit
- e. full duplex
- f. XOFF

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

---

**End of Procedure**

---

## CS 1000 Release 5.0 upgrade

### Upgrading the software

#### Procedure 13

#### Upgradng the software

- 1 Check that a terminal is connected to J25 on Core/Net 1.
- 2 Press the button on the CD-ROM drive to open the CD-ROM disk holder.
- 3 Place the CD-ROM disk into the holder with the disk label showing.

- 4 Press the button again to close the CD-ROM disk holder.  
Do not push the holder in by hand.  
**Note:** If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.
- 5 Place the CP PII Install floppy disk into the MMDU floppy disk drive.  
**Note:** If a problem is detected during the system verification, Install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue. Contact your technical support organization.
- 6 Press the manual RESET button on the CP PII card faceplate.  
Before the install runs, the system validates hard disk partitioning which takes about five minutes.

```
Testing partition 0
    0 percent done...1 percent done.....99
    percent done....100 percent done

Testing partition 1
    0 percent done...1 percent done.....99
    percent done....100 percent done

Testing partition 2
    0 percent done...1 percent done.....99
    percent done....100 percent completed!

Disk physical checking is completed!

Validate hard drive partition number and size...

There are 3 partitions in disk 0:
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte
The size of partition 0 of disk 0 is XX Mbyte

Disk partitions and sectors checking is
completed!
```

The system then checks the partitions for any errors. The screen displays the following for each partition.

```
Copyright (c) 1993-1996 RST Software Industries
Ltd. All rights reserved

ver: X.X FCS

Disk Check In Progress...

    total disk space (bytes) : XX
    bytes in each allocation unit: XX
    total allocation units on disk: XX
    bad allocation units: XX
    available bytes on disk: XX
    available clusters on disk: XX
    maximum available contiguous chain (bytes):
    XX
    available space fragmentation (%): XX
    clusters allocated: XX

Done Checking Disk.

        checks for PART_X OK!

        pmDosFsCheck is completed!
```

7 Select yes or (no) when asked if a Signaling Server is connected.

```
System Date and Time now is:  
    Day-Month-Year, Hour:Min:Sec  
    Succession Enterprise Software/Database/  
BOOTROM CDROM INSTALL Tool  
    Does this System have a Signaling  
Server.....? (Default - No)  
    Please enter:  
<CR> -> <n> - No  
    <y> - Yes  
    Enter Choice>
```

- 8 The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```

                M A I N   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> -> <u> - To Install menu
        <t> - To Tools menu.
        <q> - Quit.

Enter Choice> <CR>

>Validating Keycode

The provided keycode authorizes the install of
XXXXXXXX software

(all subissues) for machine type XXXX

(XXX processor on XXXX System)
```

**IMPORTANT!**

Remove install floppy disk at this time and insert the keycode diskette.

- 9 The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release.

```
Please confirm that this keycode matches the
CDROM Release

      Please enter:

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

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

      Enter Choice> <CR>

      >Obtain database file names
```

**10** Enter **b** to install the Software, Database and CP-BOOTROM.

```
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> b
```

## 11 Verify the CD-ROM version.

```
Please insert the installation CDROM into the
drive on Core X.

        The labeled side of the CDROM should be
side up in the CDROM tray.

        Please enter:

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

        <q> - Quit.

        Enter Choice> <CR>

The installation CDROM contains version XXXXXXXX_X.

        Please enter:

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

        <n> - No, this is not the correct version.
Try another CDROM or keycode disk

        Enter Choice> <CR>

        >copying direct.rec from /cd0/0300_KMR.N33/
target/p/s11/direct.rec to /u/direct.rec

        >Updating /u/direct.rec

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> n

Note: To choose yes and install the Dependency Lists, proceed to
step 10, otherwise proceed to step 11.
```

12 Choosing Yes for the Dependency Lists installation.

```

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.

The Installation Status Summary for the choices
entered is displayed as shown below:

-----
INSTALLATION STATUS SUMMARY
-----

Option           Choice  Status      Comment
SW: CD to disk   yes           install for rel 400
Dependency Lists yes
Database         no
CP-BOOTROM      yes
    
```

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

The installation continues with the removal of the
patch, reten and deplist directories and copying
the files from the CD to the hard disk.

>Erasing old file "/u/patch/p12749_1.cpp"
>Erasing old file "/u/patch/reten/reten.pch"
>Erasing old file "/u/patch/deplist/m16000_3.cpp"
>Copying "/cd0/0400_UMR.N33/target/u/patch/
p12749_1.cpp" to "/u/patch/p12749_1.cpp"
>Copying "/cd0/0400_UMR.N33/target/u/patch/
deplist/m16000_3.cpp" to "/u/patch/deplist/
m16000_3.cpp"
```

**Note:** The removal of patch, reten and deplist directories will happen only when it is a software upgrade or a new system installation regardless of the DepList installation menu selection.

The installation status summary after the installation will be as follows:

```

-----
INSTALLATION STATUS SUMMARY
-----

```

Option	Choice	Status	Comment
SW:CD to disk	yes	ok	install rel 400
Dependency Lists	yes	ok	core Version 1 Terminals Version 2
Database	no		
CP-BOOTROM	yes	ok	

```

-----
INSTALLATION STATUS SUMMARY
-----

```

Option	Choice	Status	Comment
SW: CD to disk	yes	ok	from 300 to 400
Dependency Lists	yes	ok	None Available
SW: disk to ROM	yes	ok	from x210300 to x2103400
Database	no		
CP-BOOTROM	yes	ok	from x210300 to x210400
IOP-ROM	yes	ok	from 02.00 to 02.00

**Installation of DepList on an SSC system through software installation**

**The DepList should be installed during the software installation if it is present in the PC Card/Pre-Programmed daughter board.**

Do you wish to install Dependency Lists? (y/n/[a]bort) :

The installation continues as below:

```
INSTALLING NEW SOFTWARE AND FILES:
Erasing flash ROM
Installing new flash ROM software modules:
Programming: auxres
Programming: diskos
Programming: slires
Programming: ovlres
Programming: loadware
Programming: remupg
Calculating CRC-32 on flash ROM program store
Installing new directory record
Installing new files
Installing Dependency Lists
Building system loadware
Done.
```

Note: Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing the ISSP command in LD 22.

If the response to the above query is "NO", the user is prompted to confirm the selection.

For example:

```
Do you wish to install Dependency Lists? (y/n/[a]bort) : n
```

```
Are you sure? (y/n/[a]bort) : y
```

**Note:** Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. The DepList version can be seen by issuing ISSP command in LD 22 or view the listing of patches in LD 143 by issuing the MDP ISSP command. If there are NO DepLists available on the installation CD the summary should appear as shown below: (IT IS RECOMMENDED TO CHOOSE YES TO INSTALL ANY MANDATORY DEPLIST PATCHES AVAILABLE WITH THE SOFTWARE MEDIA, THEN DOWNLOAD THE CURRENT DEPLISTS FROM THE ENTERPRISE SOLUTIONS PATCH LIBRARY TO OBTAIN ALL OF THE RECOMMENDED PATCHES)

13 Confirm all options before installing the software.

```
>Processing the Install Control file
  >Installing release XXXXX

      INSTALLATION STATUS SUMMARY
-----

=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| SW: CD to disk | yes | | install for rel XXXXX|
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| Database | yes | | |
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| CP-BOOTROM | yes | | |

      Please enter:<CR> -> <y> - Yes, start
Installation.

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

Enter Choice> <CR>

>Checking System Configuration

You selected to upgrade the system from release:
XXXX to release: XXXXX.

This will erase all old system files.
```

```
Database files will NOT be erased. You may
continue installing the software or quit now and
leave your system unchanged.
```

```
Please enter:
```

```
<CR> -> <a> - Continue with Upgrade.
```

```
<q> - Quit.
```

```
Enter Choice> <CR>
```

```
>Starting Software Install
```

```
          >Upgrading from release XXXX to release
XXXXXX
```

- 14** After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six 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

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

- 15** Continue with upgrade when prompted. Select a database to install. Confirm database transfer.

```
You selected to transfer the database from the
floppy disk - release: XXXX to the hard disk on
Core X. release: XXXX.

This will erase the database on the hard disk.

The database diskette has been inserted into the
floppy disk drive.

        If you quit now, the database will be left
unchanged.

        Please enter:

<CR> -> <a> - Continue with Database Install.

<q> - Quit.

Enter Choice> <CR>
```

The system then informs you of the database details and prompts you to confirm.

```
You have chosen to restore database dated:
Month Day Hour:Min:Sec:Year

      Please confirm.

      Please enter:

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

      <n> - No, DO NOT load.

      Enter Choice> <CR>
```

- 16** The system restores the database and provides a status summary.

**Note:** The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

- 17** Enter <CR> when prompted, returning the system to the Install Menu.

18 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
```

**19** The system then prompts you to confirm and reboot.

```
You selected to Quit the Software Installation
Tool.

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

Remove all disks from the system before rebooting.

-----

DO NOT REBOOT USING BUTTON!!!

-----

Please enter:

<CR> -> <a> - Reboot the system.
      <m> - Return to the Main menu.
Enter Choice> <CR>

>Removing (temporary files)

>Rebooting system ...
```

Before completing the next procedure, wait for Core/Net 1 to INI.

---

**End of Procedure**

---

## Verifying the upgraded database

### Procedure 14

#### Verifying the upgraded database

- 1 Print ISSP (system software issue and patches)

**LD 22** Load program

**REQ** ISSP

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

- 2 Print the system configuration record in LD 22 and compare the output with the pre-upgraded configuration record.

**LD 22** Load program

**REQ** PRT

**TYPE** CFN

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

- 3 Print the SLT in LD 22. This output provides used and unused ISM parameters. Compare with pre-upgrade SLT output.

**LD 22** Load program

**REQ** SLT

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

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

<b>LD 21</b>	Load program
<b>REQ</b>	PRT
<b>TYPE</b>	CDB
<b>CUST</b>	xx
<b>****</b>	Exit program



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

---

**End of Procedure**

---

## Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in “Printing site data” on [page 28](#). If there is a difference between the Source and Target peripheral software version:

- A forced download occurs during initialization when coming out of parallel reload.
- System initialization takes longer.
- The system drops established calls on IPE.

Load LD 22 and print Target peripheral software version.

<b>LD 22</b>	
<b>REQ</b>	PRT

<b>TYPE</b>	PSWV
****	Exit program

## Reconfigure I/O ports and call registers

### Procedure 15

#### 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). Refer to *Communication Server 1000M and Meridian 1: Large System Planning and Engineering (NN43021-220)*. If changes are required, reconfigure the values in LD 17:

**LD 17** Load program

**CHG**

**CFN**

**PARM YES**

**500B 1000** Use 1000 as a minimum value

**NCR 20000** Use 20000 as a minimum value

\*\*\*\* Exit program

---

**End of Procedure**

---



At this point, all applications must be shut down (CallPilot, Symposium, and so on).

**Procedure 16**  
**Rebooting Core 1****CAUTION****Service Interruption**

The INI may take up to 15 minutes to complete.

**CAUTION****Service Interruption**

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

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

- 1 In Core/Net 0 only, faceplate disable the CNI cards.
- 2 In Core/Net 0 only, faceplate disable the IODU/C card.
- 3 In Core/Net 0 only, unseat the Core Processor card.
- 4 Faceplate disable Clock Controller 0 and unseat the card.
- 5 Faceplate disable all IGS/DIGS cards in shelf 0 and unseat the card.
- 6 Seat and faceplate enable Clock Controller 1.
- 7 Seat and faceplate enable all FIJI cards in shelf 1.
- 8 Faceplate enable CNI cards in Core 1.
- 9 Press the 'INIT' button on the CP PII card faceplate of Core 1 to initialize the system.

- 10 Wait for "DONE" and then "INI" messages to display before you continue.



**CAUTION**

**Service Interruption**

Allow the system to recover from all downloads after the INI completes.

During INI, FIJI error messages (from Shelf 0) appear on the screen. FIJI card on shelf 1 resets. Upon INI completion, RING 1 is full, FIJI Ring 0 (in Core/Net 0) is disabled, AUTO recovery is on and Clock Controller 1 is active.

---

**End of Procedure**

---



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

## Testing Core/Net 1

**Procedure 17**  
**Testing Core/Net 1**

- 1 Check dial-tone.
- 2 Stat D-channels:

**LD 96**

**STAT DCH**            Stat all D-channels

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

- 3 Stat all T1 interfaces:

**LD 60**

**STAT**                    Stat all DTI and PRI  
**\*\*\*\***                    Exit program

**4** Stat network cards:

**LD 32**

**STAT x**                x = loop number  
**\*\*\*\***                    Exit program

**5** Print status of all controllers:

**LD 97**

**REQ**                    PRT  
**TYPE**                XPE (returns status of all controller cards)  
**\*\*\*\***                    Exit program

- 6** Make internal, external and network calls.
- 7** Check attendant console activity.
- 8** Check DID trunks.



Call processing should be active on Core/Net 1.

---

**End of Procedure**

---

## Upgrading Core 0

### Add Side 0 FIJI hardware

#### Procedure 18

##### Install Side 0 FIJI cards

- 1 Unpack the FIJI cards (NTRB33).
- 2 Faceplate-disable the NTRB33 cards.
- 1 Insert and seat the FIJI cards in all Side 0 shelves.

---

**End of Procedure**

---

#### Procedure 19

##### Connect the FIJI to FIJI cables

- 1 Connect P1 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 1, except group 0.
- 2 Connect P2 of a NTRC47 FIJI to FIJI cable to J4 of the FIJI cards in each Network shelf 0, except group 0.

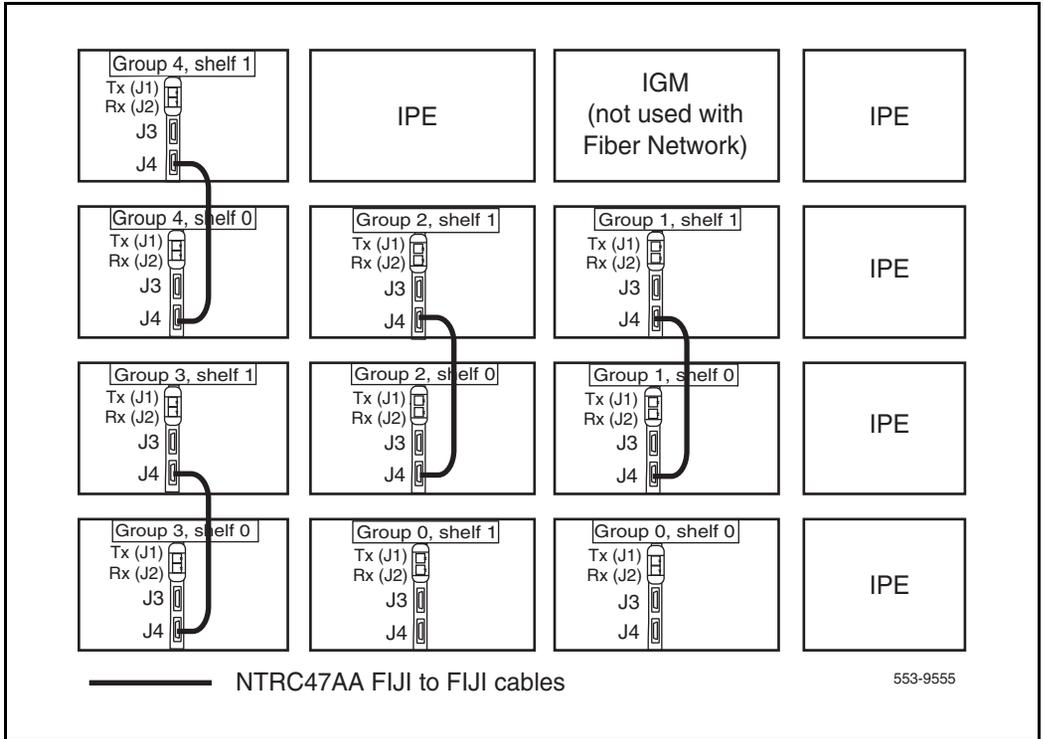
**Note:** The FIJI cards in Group 0 do not receive a FIJI to FIJI cable.

---

**End of Procedure**

---

**Figure 1**  
**FIJI shelf 0 to FIJI shelf 1 connections**



### Procedure 20

#### Connecting the shelf 0 FIJI Ring cables (ascending)

Create Fiber Ring 0. Connect the FIJI cards in all Network shelves 0 in **ascending** order, from Tx to Rx ports (see Figure 7 on [page 83](#) and Table 12 on [page 84](#)).



#### IMPORTANT!

The shortest Fiber Cable must always be used.

The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.

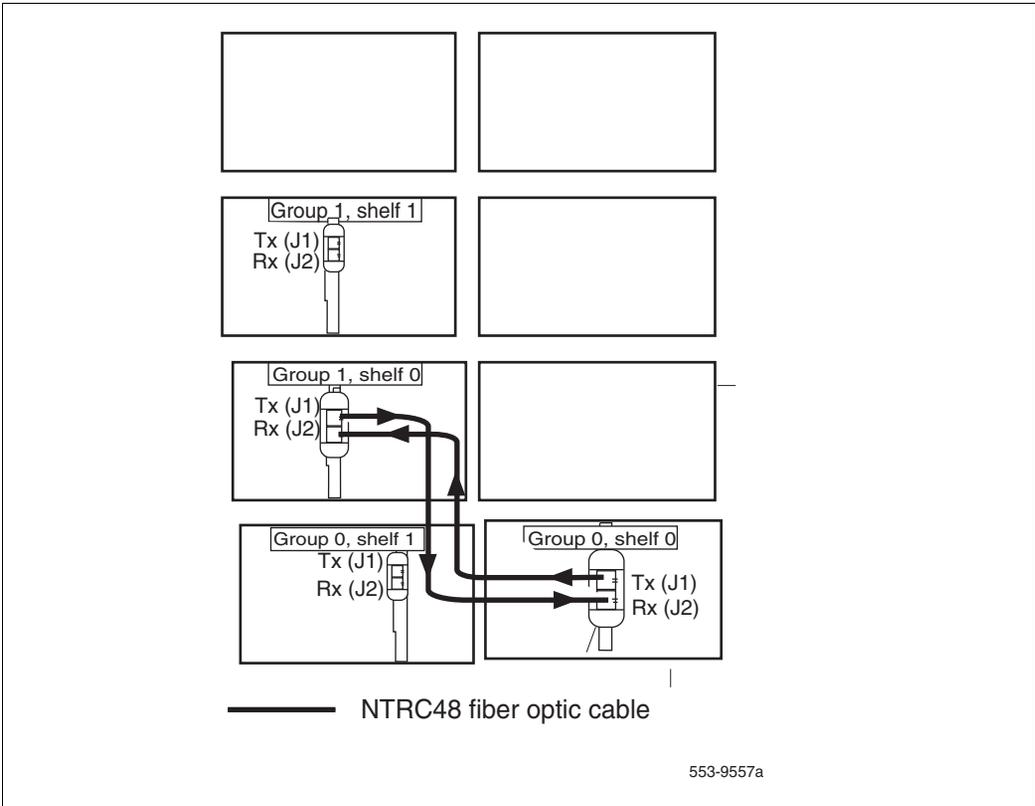
**Note:** When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Remove the black cap from the end of each cable before it is connected.

**Note:** Each end of the NTRC48xx cable is labeled “Tx” or Rx” in the factory.

- 1 Start with group 0, shelf 0.
- 2 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 0, shelf 0** to the Rx (J2) port of the FIJI card in **Group 1, shelf 0**.
- 3 Connect a NTRC48xx FIJI Fiber Ring cable of the appropriate length from the Tx (J1) port of the FIJI card in **Group 1, shelf 0** to the Rx (J2) port of the FIJI card in **Group 2, shelf 0**.
- 4 Continue to connect NTRC48xx FIJI Fiber Ring cables of the appropriate length from the Tx (J1) port to the Rx (J2) port in shelf 0 of each Network group. Connect these cables in **ascending** order of Network groups.

**Figure 7**  
**Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 2 group example)**



- 5 To complete the Ring, connect a final cable from the Tx (J1) port in the **highest number group** back to the Rx (J2) port in **Group 0, shelf 0**.

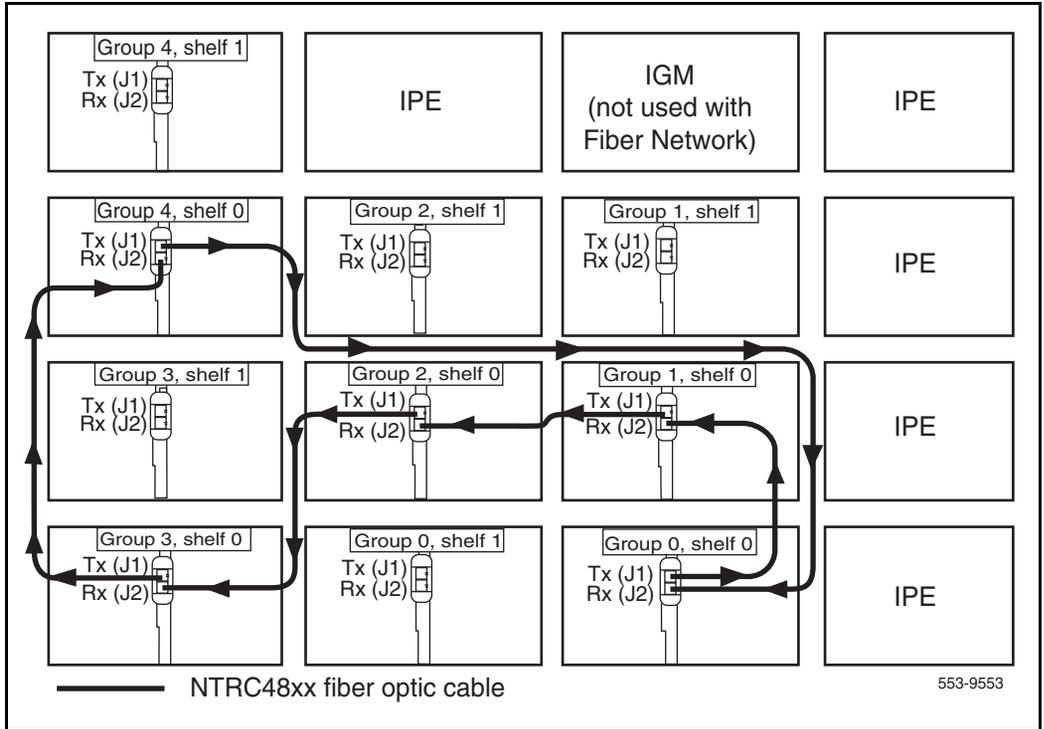
**Table 12**  
**FIJI Ring 0 connections**

Groups X - 0 are cabled in ascending order		
Group/Shelf	FIJI Connector	Tx/Rx
0/0	P1	Tx
1/0	P2	Rx
1/0	P1	Tx
2/0	P2	Rx
2/0	P1	Tx
3/0	P2	Rx
3/0	P1	Tx
4/0	P2	Rx
4/0	P1	Tx
5/0	P2	Rx
5/0	P1	Tx
6/0	P2	Rx
6/0	P1	Tx
7/0	P2	Rx
7/0	P1	Tx
0/0	P2	Rx

---

**End of Procedure**

**Figure 8**  
**Shelf 0 ascending fiber optic Ring (Meridian 1 Option 81C 5 group example)**



**Procedure 21**  
**Upgrading Clock Controller 0**



**CAUTION**

Clock Controller cards must be NTRB53 Clock Controller cards.



**CAUTION — Service Interruption**

**Service Interruption occurs if wrong Clock Controller is removed!**

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

Do not move Clock Controller 1 at this time.

If the system has a QPC471 or QPC775 Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in slot 13 of any network shelf other than the Core/Net shelf) and verify settings according to Table 13 on [page 87](#).

If the system has an NTRB53 Clock Controller, skip this procedure.

- 1 Label and disconnect the Clock Controller 0.
- 2 Disconnect the cable from the Clock Controller 0 faceplate.
- 3 If primary and secondary clock reference cables are connected to the Clock Controller 0 faceplate, disconnect them last.
- 4 Remove QPC Clock Controller 0 from the Network Module.
- 5 Set the new NTRB53 Clock Controller 0 switch settings according to and Table 13 on [page 87](#).  
**Note:** If the NTRC49AA cable is used, set switches 3 and 4 to 0-14 feet. If the NTRC49BA cable is used, set switches 3 and 4 to 15-20 feet.
- 6 Place the NTRB53 Clock Controller in slot 13 of any Network shelf. DO NOT seat the Clock Controller 0 and DO NOT faceplate enable the card.

7 Re-connect all reference cables.

**Note:** The Clock Controllers (0 and 1) must be located in Group1 (in a 2 group system only). If in the future the Meridian 1 Option 81C CP PIV is upgraded to more than 2 Network groups, Nortel recommends that Clock Controllers 0 and 1 be located in different Network groups.

**Table 13**  
**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	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.)		
<b>Note:</b> Switch 7 and 8 are not used.						

————— End of Procedure —————

## Cabling the Clock Controllers to FIJI card

### Procedure 22

#### Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 9 on [page 89](#):

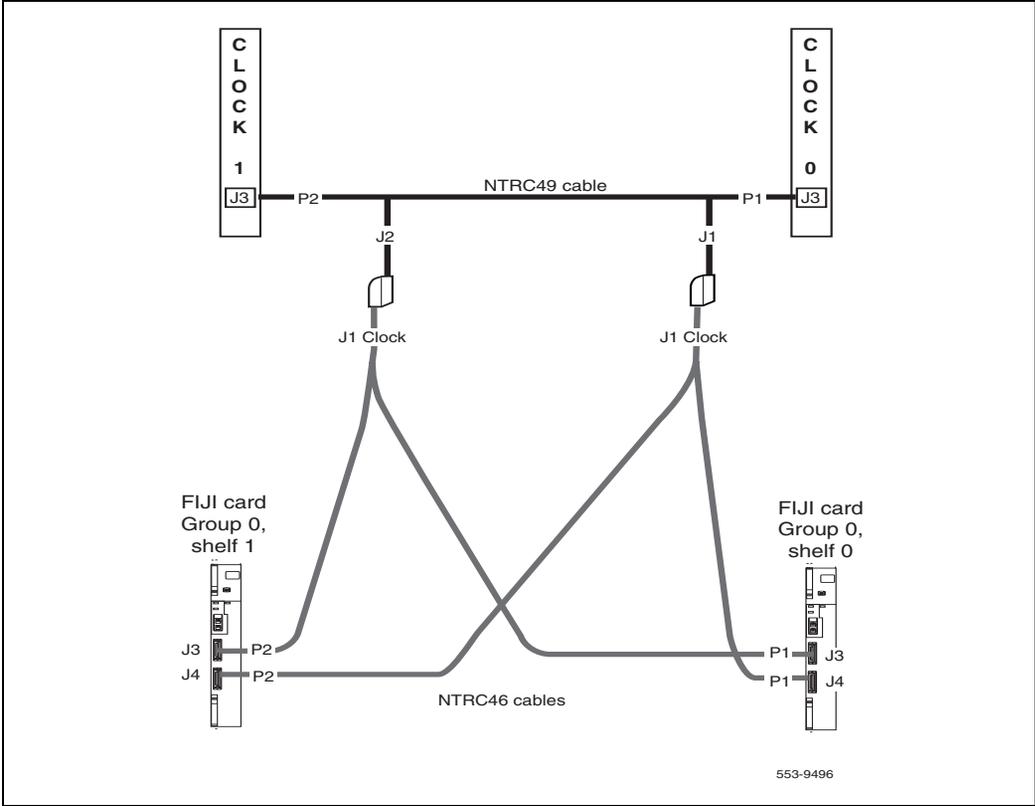
- 1 Connect the Clock 0 to FIJI cable:
  - a. Connect P1 of the NTRC46 cable from Clock 0 to **J4** of the FIJI card in group 0, **shelf 0**.
  - b. Connect P2 of the NTRC46 cable for Clock 0 to **J4** of the FIJI card in group 0, **shelf 1**
- 2 Connect the Clock 1 to FIJI cable.
  - a. Connect P1 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, **shelf 0**

---

**End of Procedure**

---

**Figure 9**  
**Clock Controller cable configuration**



## CS 1000 Release 5.0 upgrade

### Upgrading the software

Procedure 23 outlines the steps involved in installing CS 1000 Release 5.0 for the CP PII processor.

**Procedure 23**  
**Upgrading the software**

- 1 Check that a terminal is connected to J25 on Core/Net 1.
- 2 Press the button on the CD-ROM drive to open the CD-ROM disk holder.
- 3 Place the CD-ROM disk into the holder with the disk label showing.
- 4 Press the button again to close the CD-ROM disk holder.  
Do not push the holder in by hand.

**Note:** If the CD-ROM is not in the CD-ROM drive, the installation will not continue. Insert the CD-ROM to continue.

- 5 Place the CP PII Install floppy disk into the MMDU floppy disk drive.

**Note:** If a problem is detected during the system verification, Install stops, prints an error message, and aborts the installation. If the verification is not successful, do not continue. Contact your technical support organization.

- 6 Press the manual RESET button on the CP PII card faceplate.

Before the install runs, the system validates hard disk partitioning which takes about five minutes.

```
Testing partition 0
    0 percent done...1 percent done.....99
    percent done...100 percent done

Testing partition 1
    0 percent done...1 percent done.....99
    percent done...100 percent done

Testing partition 2
    0 percent done...1 percent done.....99
    percent done...100 percent completed!

Disk physical checking is completed!
-----
Validate hard drive partition number and size...
```

```
There are 3 partitions in disk 0:  
The size of partition 0 of disk 0 is XX Mbyte  
The size of partition 0 of disk 0 is XX Mbyte  
The size of partition 0 of disk 0 is XX Mbyte  
  
Disk partitions and sectors checking is  
completed!
```

The system then checks the partitions for any errors. The screen displays the following for each partition.

```
Copyright (c) 1993-1996 RST Software Industries  
Ltd. All rights reserved  
  
ver: X.X FCS  
  
Disk Check In Progress...  
  
    total disk space (bytes) : XX  
    bytes in each allocation unit: XX  
    total allocation units on disk: XX  
    bad allocation units: XX  
    available bytes on disk: XX  
    available clusters on disk: XX  
    maximum available contiguous chain (bytes):  
    XX  
    available space fragmentation (%): XX  
    clusters allocated: XX  
  
Done Checking Disk.  
  
    checks for PART_X OK!  
    pmDosFsCheck is completed!
```

7 Select yes or (no) when asked if a Signaling Server is connected.

```
System Date and Time now is:
      Day-Month-Year, Hour:Min:Sec
      Succession Enterprise Software/Database/
BOOTROM CDROM INSTALL Tool
      Does this System have a Signaling
Server.....? (Default - No)
      Please enter:
<CR> -> <n> - No
      <y> - Yes
      Enter Choice>
```

- 8 The system then enters the Main Menu for keycode authorization. Remove the CP PII Install Program diskette and insert the Keycode diskette.

```

                M A I N   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> -> <u> - To Install menu
        <t> - To Tools menu.
        <q> - Quit.

Enter Choice> <CR>

>Validating Keycode

The provided keycode authorizes the install of
XXXXXXXX software

(all subissues) for machine type XXXX

(XXX processor on XXXX System)
```

**IMPORTANT!**

Remove install floppy disk at this time and insert the keycode diskette.

- 9 The screen displays the Install Menu. Confirm that the keycode matches the CD-ROM release.

```
Please confirm that this keycode matches the
CDROM Release

      Please enter:

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

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

      Enter Choice> <CR>

      >Obtain database file names
```

**10** Enter **b** to install the Software, Database and CP-BOOTROM.

```
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> b
```

## 11 Verify the CD-ROM version.

```
Please insert the installation CDROM into the
drive on Core X.

        The labeled side of the CDROM should be
side up in the CDROM tray.

        Please enter:

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

        <q> - Quit.

        Enter Choice> <CR>

The installation CDROM contains version XXXXXXXX_X.

        Please enter:

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

        <n> - No, this is not the correct version.
Try another CDROM or keycode disk

        Enter Choice> <CR>

        >copying direct.rec from /cd0/0300_KMR.N33/
target/p/s11/direct.rec to /u/direct.rec

        >Updating /u/direct.rec

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> n

Note: To choose yes and install the Dependency Lists, proceed to
step 10, otherwise proceed to step 11.
```

## 12 Choosing Yes for the Dependency Lists installation.

```

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.

The Installation Status Summary for the choices entered is displayed as shown below:

```

-----
INSTALLATION STATUS SUMMARY
-----

Option           Choice  Status      Comment
SW: CD to disk   yes           install for rel 400
Dependency Lists yes
Database         no
CP-BOOTROM      yes

```

```
Please enter:  
  
<CR> -> <y> - Yes, start installation.  
      <n> - No, stop installation. Return to the  
Main Menu.  
  
The installation continues with the removal of the  
patch, reten and deplist directories and copying  
the files from the CD to the hard disk.  
  
>Erasing old file "/u/patch/p12749_1.cpp"  
>Erasing old file "/u/patch/reten/reten.pch"  
>Erasing old file "/u/patch/deplist/m16000_3.cpp"  
  
>Copying "/cd0/0400_UMR.N33/target/u/patch/  
p12749_1.cpp" to "/u/patch/p12749_1.cpp"  
  
>Copying "/cd0/0400_UMR.N33/target/u/patch/  
deplist/m16000_3.cpp" to "/u/patch/deplist/  
m16000_3.cpp"
```

**Note:** The removal of patch, reten and deplist directories will happen only when it is a software upgrade or a new system installation regardless of the DepList installation menu selection.

The installation status summary after the installation will be as follows:

```

-----
INSTALLATION STATUS SUMMARY
-----
    
```

Option	Choice	Status	Comment
SW:CD to disk	yes	ok	install rel 400
Dependency Lists	yes	ok	core Version 1 Terminals Version 2
Database	no		
CP-BOOTROM	yes	ok	

**Note:** Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. The DepList version can be seen by issuing ISSP command in LD 22 or view the listing of patches in LD 143 by issuing the MDP ISSP command. If there are NO DepLists available on the installation CD the summary should appear as shown below: (it is recommended to choose yes to install any mandatory deplist patches available with the software media, then download the current deplists from the enterprise solutions patch library to obtain all of the recommended patches)

```

-----
INSTALLATION STATUS SUMMARY
-----
    
```

Option	Choice	Status	Comment
SW: CD to disk	yes	ok	from 300 to 400
Dependency Lists	yes	ok	None Available
SW: disk to ROM	yes	ok	from x210300 to x2103400
Database	no		
CP-BOOTROM	yes	ok	from x210300 to x210400
IOP ROM	yes	ok	from 02.00 to 02.00

**Installation of DepList on an SSC system through software installation**

**The DepList should be installed during the software installation if it is present in the PC Card/Pre-Programmed daughter board.**

Do you wish to install Dependency Lists? (y/n/[a]bort) :

The installation continues as below:

```
INSTALLING NEW SOFTWARE AND FILES:
Erasing flash ROM
Installing new flash ROM software modules:
Programming: auxres
Programming: diskos
Programming: slires
Programming: ovlres
Programming: loadware
Programming: remupg
Calculating CRC-32 on flash ROM program store
Installing new directory record
Installing new files
Installing Dependency Lists
Building system loadware
Done.
```

Note: Once the installation is complete and the system reboots, the PEPs that are installed will be automatically put into service. This can be seen by issuing the ISSP command in LD 22.

If the response to the above query is "NO", the user is prompted to confirm the selection.

For example:

```
Do you wish to install Dependency Lists? (y/n/[a]bort) : n
```

```
Are you sure? (y/n/[a]bort) : y
```

**13** Confirm all options before installing the software.

```

>Processing the Install Control file
  >Installing release XXXXX

      INSTALLATION STATUS SUMMARY
-----
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| SW: CD to disk | yes | | install for rel XXXXX|
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| Database | yes | | |
=====+=====+=====+=====
| Option | Choice | Status | Comment |
=====+=====+=====+=====
| CP-BOOTROM | yes | | |

      Please enter:<CR> -> <y> - Yes, start
Installation.

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

Enter Choice> <CR>

>Checking System Configuration

You selected to upgrade the system from release:
XXXX to release: XXXXX.

This will erase all old system files.

```

```
Database files will NOT be erased. You may
continue installing the software or quit now and
leave your system unchanged.
```

```
Please enter:
```

```
<CR> -> <a> - Continue with Upgrade.
```

```
<q> - Quit.
```

```
Enter Choice> <CR>
```

```
>Starting Software Install
```

```
          >Upgrading from release XXXX to release
XXXXXX
```

- 14** After a number of files are copied over, select a PSDL file to install. The PSDL file contains the loadware for all downloadable cards in the system and loadware for M3900 series sets.

Select one of the six 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

The languages contained in each selection are outlined as follows.

- 1 – Global 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Japanese Katakana.
- 2 – Western Europe 10 Languages English, French, German, Spanish, Swedish, Italian, Norwegian, Brazilian Portuguese, Finnish, Danish.
- 3 – Eastern Europe 10 Languages English, French, German, Dutch, Polish, Czech, Hungarian, Russian, Latvian, Turkish.
- 4 – North America six Languages English, French, German, Spanish, Brazilian Portuguese, Japanese Katakana.
- 5 – Spare Group A.
- 6 – Spare Group B.

- 15** Continue with upgrade when prompted. Select a database to install. Confirm database transfer.

```
You selected to transfer the database from the
floppy disk - release: XXXX to the hard disk on
Core X. release: XXXX.
```

```
This will erase the database on the hard disk.
```

```
The database diskette has been inserted into the
floppy disk drive.
```

```
        If you quit now, the database will be left
unchanged.
```

```
        Please enter:
```

```
<CR> -> <a> - Continue with Database Install.
```

```
<q> - Quit.
```

```
Enter Choice> <CR>
```

The system then informs you of the database details and prompts you to confirm.

```
You have chosen to restore database dated:
Month Day Hour:Min:Sec:Year

      Please confirm.

      Please enter:

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

      <n> - No, DO NOT load.

      Enter Choice> <CR>
```

- 16** The system restores the database and provides a status summary.

**Note:** The hard drive on a new system displays an error message that no database is found on hard drive. This message can be ignored.

- 17** Enter <CR> when prompted, returning the system to the Install Menu.

**18** 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
```

19 The system then prompts you to confirm and reboot.

```
You selected to Quit the Software Installation
Tool.

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

Remove all disks from the system before rebooting.

-----

DO NOT REBOOT USING BUTTON!!!

-----

Please enter:

<CR> -> <a> - Reboot the system.
      <m> - Return to the Main menu.
Enter Choice> <CR>
>Removing (temporary files)

>Rebooting system ...
```

Before completing the next procedure, wait for Core/Net 1 to INI.

---

**End of Procedure**

---

## Verifying the upgraded database

### Procedure 24

#### 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 25

#### Making the system redundant

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

**LD 135**                    Load program

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

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

**LD 135**

**STAT CPU**      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 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
    sut1 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.

**Note:** On FNF based systems after the INI:  
 A FIJI download will occur if the FIJI firmware on Bank 1 of the FIJI card is different from the firmware on the system hard drive (PSDL file). This is automatic and no attempt should be made to prevent the download. The system will switch full to one ring, downloading up to 4 FIJI cards on the opposite ring at a time. This process continues on both rings until all FIJI's have been downloaded. The rings will then reset and come into service with the highest firmware available. This process is not service affecting. Depending on the number of groups installed, this process may take up to 20 minutes per ring.

---

**End of Procedure**

---

## Completing the CP PII upgrade

### Testing the Cores

#### Procedure 26

#### 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:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test CPU

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

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

**3** Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	Test database integrity
<b>STAT</b>	Status of the MMDU

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

<b>LD 37</b>	Load program
<b>ENL TTY x</b>	Enable the XMS, where x= system XMS
<b>STAT XSM</b>	Check the system monitors
<b>****</b>	Exit program

- 5 Clear the display and minor alarms on both Cores:

<b>LD 135</b>	Load program
<b>CDSP</b>	Clear displays on the cores
<b>CMAJ</b>	Clear major alarms
<b>CMIN ALL</b>	Clear minor alarms

- 6 Test the clocks:

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

<b>LD 60</b>	Load program
<b>SSCK x</b>	Get status of the clock controllers (x is “0” or “1” for Clock 0 or Clock 1)
<b>SWCK</b>	Switch the Clock (if necessary)
<b>****</b>	Exit program

- b. Verify that the Clock Controllers are switching correctly:

<b>SWCK</b>	Switch Clock
	<b>Note:</b> You must wait a minimum of one minute for clocks to synchronize.
<b>SWCK</b>	Switch Clock again

7 Test the Fiber Rings:

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

a. Check that the Fiber Rings operate correctly:

**LD 39** Load program

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

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

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

**RSTR** Restore both Rings to HALF state

c. Check that the Rings operate correctly:

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

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

8 Check the status of the FIJI alarms:

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

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

9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).

10 Check dial tone.

---

**End of Procedure**

---

## Switch call processing

### Procedure 27 Switching call processing

<b>LD 135</b>	Load program
<b>SCPU</b>	Switch call processing from Core/Net 1 to Core/Net 0



Core/Net 0 is now the active call processor.

### Procedure 28 Testing Core/Net 0

From Core/Net 0, perform these tests:

1 Perform a redundancy sanity test:

<b>LD 135</b>	Load program
<b>STAT CPU</b>	Get status of CPU and memory
<b>TEST CPU</b>	Test CPU

2 Test the System Utility card and the cCNI cards:

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

3 Test system redundancy:

<b>LD 137</b>	Load program
<b>TEST RDUN</b>	Test redundancy
<b>DATA RDUN</b>	Test database integrity
<b>STAT</b>	Status of the MMDU

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

<b>LD 37</b>	Load program
<b>ENL TTY x</b>	Enable the XMS, where x= system XMS
<b>STAT XSM</b>	Check the system monitors
<b>****</b>	Exit program

5 Clear the display and minor alarms on both Cores:

<b>LD 135</b>	Load program
<b>CDSP</b>	Clear displays on the cores
<b>CMAJ</b>	Clear major alarms
<b>CMIN ALL</b>	Clear minor alarms

**6** Test the clocks:

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

<b>LD 60</b>	Load program
<b>SSCK <i>x</i></b>	Get status of the clock controllers ( <i>x</i> is “0” or “1” for Clock 0 or Clock 1)
<b>SWCK</b>	Switch the Clock (if necessary)
<b>****</b>	Exit program

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

<b>SWCK</b>	Switch Clock
	<b>Note:</b> You must wait a minimum of one minute for clocks to synchronize.
<b>SWCK</b>	Switch Clock again

**7** Test the Fiber Rings:

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

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

<b>LD 39</b>	Load program
<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

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

<b>RSTR</b>	Restore both Rings to HALF state
-------------	----------------------------------

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

<b>STAT RING 0</b>	Check the status of Ring 0 (HALF/HALF)
<b>STAT RING 1</b>	Check the status of Ring 1 (HALF/HALF)

- 8 Check the status of the FIJI alarms:

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

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

- 9 Check applications (CallPilot, Symposium, Meridian Mail, and so on.).  
10 Check dial tone.

---

**End of Procedure**

---

### **Perform a customer backup data dump (upgraded release)**

#### **Procedure 29 Performing a data dump**

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

**LD 43** Load program

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

**EDD** Begin the data dump



#### **CAUTION — Service Interruption**

##### **Loss of Data**

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

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

\*\*\*\* Exit program

---

**End of Procedure**

---

The Meridian 1 Option 61C CP PII upgrade to CS 1000M MG CP PII with FNF is complete.



---

# Installing a Signaling Server

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## Contents

This section contains information on the following topics:

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## Introduction

This chapter contains general instructions to install a Nortel CP PM server and detailed instructions to install a legacy Nortel ISP1100 server. This chapter contains no instructions to install an IBM X306m or HP DL320-G4 COTS 1U server. Please see the *IBM xSeries 306m Types 8848 and 8491 User Guide* or the *HP ProLiant DL320 Generation 4 Server User Guide* shipped with the COTS servers for detailed installation instructions. Of particular note, the IBM X306m and HP DL320-G4 servers require four-post

rack mounting, as opposed to two-post rack mounting for the Nortel ISP1100 server.

**IMPORTANT!**

Instructions to install an IBM X306m or HP DL320-G4 COTS 1U server are not included in this chapter. Detailed installation instructions can be found in the IBM xSeries 306m Types 8848 and 8491 User Guide or the HP ProLiant DL320 Generation 4 Server User Guide shipped with the server.

## Readiness checklist

Before installing a Signaling Server in a CS 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 the Signaling Server is installed and used. Be sure to replace the cord with the correct type.

**Table 14**  
**Readiness checklist (Part 1 of 2)**

<b>Have you:</b>	
Read all safety instructions in <i>Communication Server 1000E: Installation and Commissioning</i> (NN43041-310) or <i>Communication Server 1000M and Meridian 1 Large System Installation and Commissioning</i> (NN43021-310), as appropriate for your CS 1000 system?	
<p>Received all equipment and peripherals?</p> <p><b>For a Nortel ISP1100 (NTDU27AA), IBM X306m (NTDU99AAE5), and HP DL320-G4 (NTDU97AA) Signaling Servers:</b></p> <ul style="list-style-type: none"> <li>• installation accessories for rack-mounting the server</li> <li>• AC-power cord</li> <li>• a DTE-DTE null modem cable (supplied)</li> </ul> <p><b>For a CS 1000E Nortel CP PM Signaling Server (NTDW61BAE5):</b></p> <ul style="list-style-type: none"> <li>• NTDW6102E5 - CP PM Signaling Server Hard Drive kit</li> <li>• N0118766 - CP PM Signaling Server Hard Drive Installation instructions</li> <li>• NTAK19ECE6 - CP PM Signaling Server 2 port SDI Cable assembly kit</li> <li>• NTDU0606E6 - CP PM Signaling Server 25cm RJ45 Ethernet Cable kit</li> <li>• a DTE-DTE null modem cable (supplied)</li> <li>• for a CS 1000M Nortel CP PM Signaling Server (NTDW66AAE5 model)</li> <li>• NTDW6102E5 - CP PM Signaling Server Hard Drive kit</li> <li>• N0118766 - CP PM Signaling Server Hard Drive Installation instructions</li> <li>• NTAK19ECE6 - CP PM Signaling Server 2 port SDI Cable assembly kit</li> <li>• NTDW69AAE5 - CP PM Signaling Server Large System Cabling kit</li> <li>• N0106745 - CP PM Signaling Large System Cabling</li> <li>• a DTE-DTE null modem cable (supplied)</li> </ul> <p><b>Note:</b> Save the packaging container and packing materials in case you must ship the product.</p>	

**Table 14**  
**Readiness checklist (Part 2 of 2)**

<b>Have you:</b>	
Made sure the area meets all environmental requirements?	
Checked for all power requirements?	
Checked for correct grounding facilities?	
<p>Obtained the following:</p> <ul style="list-style-type: none"> <li>• screwdrivers</li> <li>• an ECOS 1023 POW-R-MATE or similar type of multimeter</li> <li>• appropriate cable terminating tools</li> <li>• a computer (maintenance terminal) to connect directly to the Signaling Server, with: <ul style="list-style-type: none"> <li>— teletype terminal (ANSI-W emulation, serial port, 9600 bps)</li> <li>— a web browser for Element Manager (configure cache settings to check for new web pages)</li> <li>— every time the browser is invoked, and to empty the cache when the browser is closed)</li> </ul> </li> </ul>	
Prepared the network data as suggested in <i>Converging the Data Network with VoIP</i> (NN43001-260), <i>Communication Server 1000E: Planning and Engineering</i> (NN43041-220) or <i>Communication Server 1000M and Meridian 1 Large System Planning and Engineering</i> (NN43021-220), as appropriate for your CS 1000 system?	
Read all safety instructions in <i>Communication Server 1000E: Installation and Commissioning</i> (NN43041-310) or <i>Communication Server 1000M and Meridian 1 Large System Installation and Commissioning</i> (NN43021-310), as appropriate for your CS 1000 system?	

## Installing the CP PM Signaling Server hardware

The Nortel CP PM server is a circuit card, and thus is not mounted in a rack. This section contains instructions for installing a Nortel CP PM Signaling Server in a CS 1000E and a CS 1000M system.

This section contains general instructions for installing the CP PM Signaling Server circuit cards in CS 1000E and CS 1000M systems. For more detailed installation instructions, refer to *Circuit Card: Description and Installation* (NN43001-311) and *Signaling Server: Installation and Commissioning* (NN43001-312).

**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 set to position 2 to support the internal hard drive used on the CP PM Signaling Server circuit cards only.

## Installation in a CS 1000E system

The NTDW61BAE5 model of the Nortel CP PM server is designed for use in a CS 1000E system. The first task that must be performed is to install the hard drive shipped with the server. For instructions, see "Install the hard drive on a Nortel CP PM Signaling Server" in *Signaling Server: Installation and Commissioning* (NN43001-312).

You can insert the NTDW61BAE5 model of the Nortel CP PM server into any slot of a CS 1000E Media Gateway (MG 1000E or MG 1000B) or 11C cabinet or chassis, except slot 0. Slot 0 is reserved for a Small System Controller (SSC) card or a Media Gateway Controller (MGC) card. Keying prevents the NTDW61BAE5 model from being inserted into this slot.



**CAUTION — Equipment Damage**

Do not insert the NTDW61BAE5 model of the Nortel CP PM server into any slot of a CS 1000M Universal Equipment Module (UEM). Doing so can cause electrical shorts on adjacent circuit cards.

## Installation in a CS 1000M system

The NTDW66AAE5 model of the Nortel CP PM server is designed for use in a CS 1000M system. The first task that must be performed is to install the hard drive shipped with the server. For instructions, see "Install the hard drive on a Nortel CP PM Signaling Server" in *Signaling Server: Installation and Commissioning* (NN43001-312).

You can insert the NTDW66AAE5 model into any slot of a CS 1000M Universal Equipment Module (UEM) except slot 7. The External Peripheral Equipment Controller (XPEC) is next to slot 7 and prevents the double wide faceplate of the NTDW66AAE5 model 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 CS 1000M UEM. These ports are used to connect your Nortel CP PM Signaling Server to the ELAN and TLAN Ethernet subnets of your CS 1000M system.

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

### **IMPORTANT!**

Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M Universal Equipment Module (UEM) is service-disrupting. Power to the shelf must be turned off during this procedure.

**Procedure 30**

**Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM**

- 1 Obtain the special cabling kit (NTDW69AAE5) shipped with the CS 1000M model of the Nortel CP PM Signaling Server (NTDW66AAE5). The NTDW69AAE5 cabling kit should include the items shown in Figure 10.

**Figure 10**

**NTDW69AAE5 Cabling Kit contents**

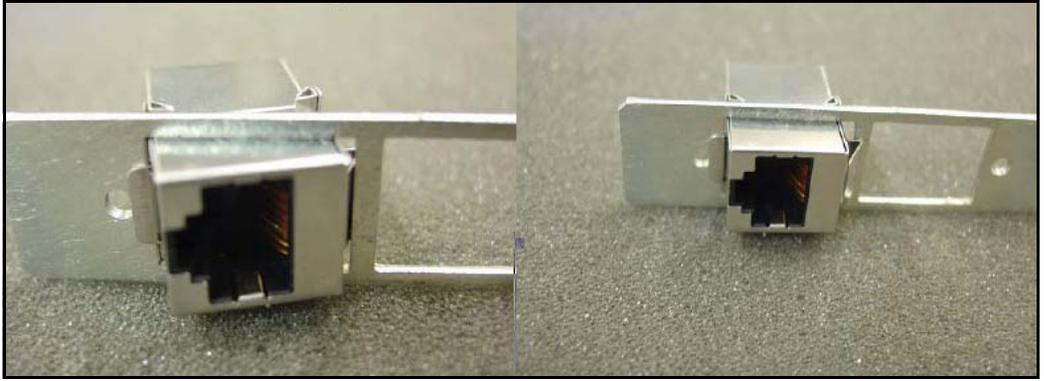


The following is a list of items in the NTDW69AAE5 cabling kit:

- 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 11.

**Figure 11**  
**One Ethernet port coupler in adapter plate**



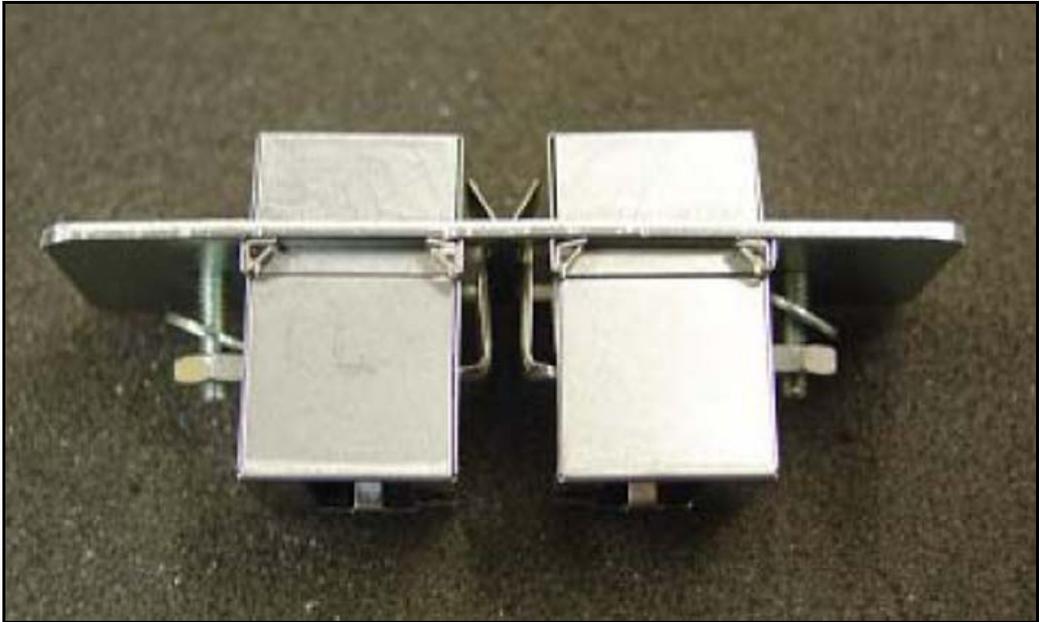
- 3 Insert the other Ethernet port coupler into the adapter plate. See Figure 12 on page 129.

**Figure 12**  
**Two Ethernet port couplers in adapter plate**



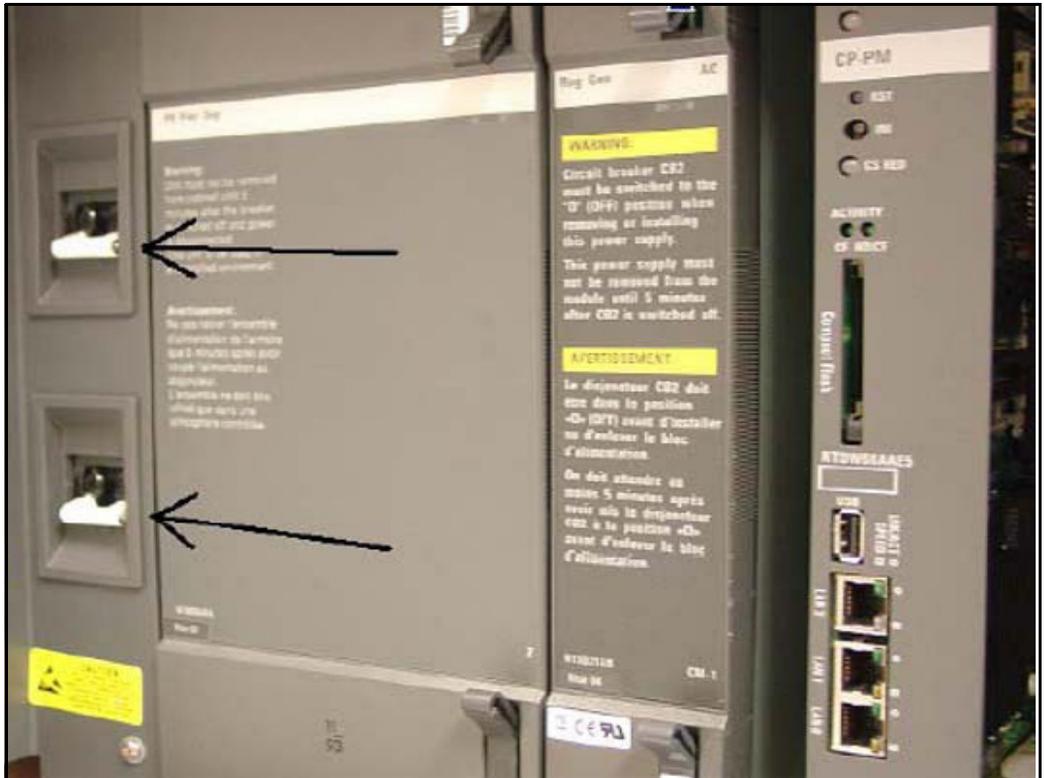
- 4 Loosely attach screws, washers, and nuts to the Ethernet port adapter plate. See Figure 13.

**Figure 13**  
**One Ethernet port coupler in adapter plate**



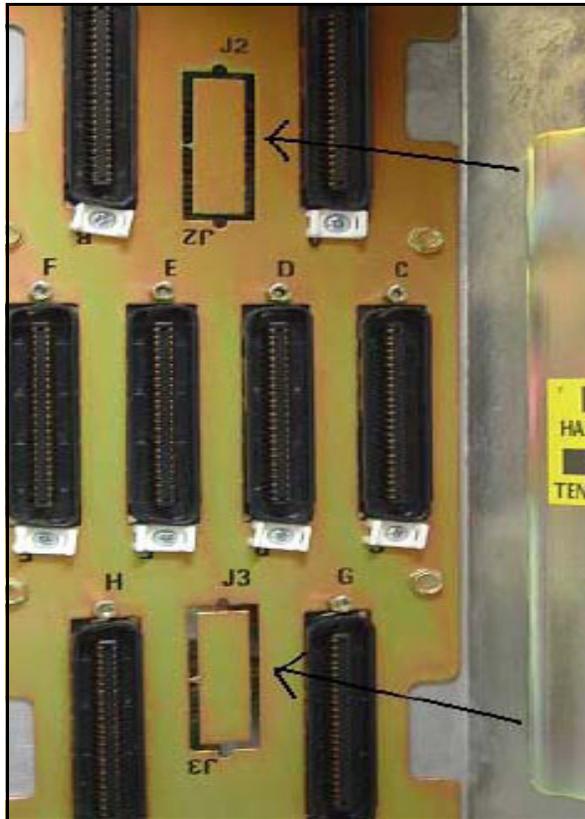
- 5 Switch off the UEM power supplies. See Figure 14.

**Figure 14**  
**Shut down UEM power supplies**



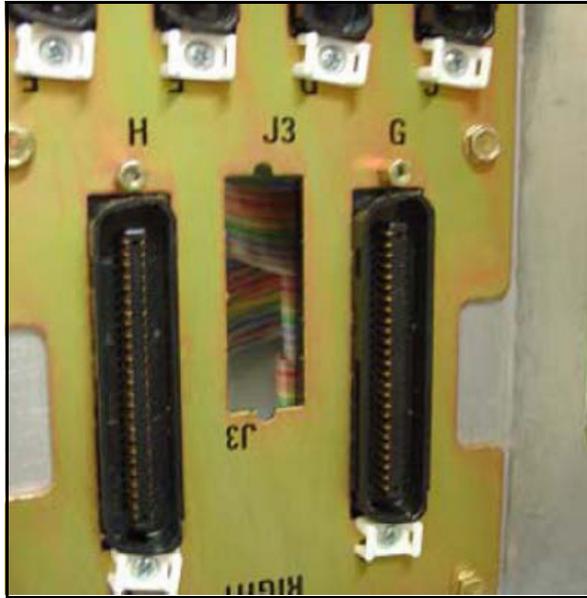
- 6 Select one of the J2-J5 knock-out plates on the back of the UEM. See Figure 15.

**Figure 15**  
**J2-J5 plates on back panel of UEM**



- 7 Knock out the metal plate from selected J2-J5 location. This provides a hole through which the Ethernet patch cables are routed, and to which the Ethernet port adapter plate is attached. See Figure 16.

**Figure 16**  
**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 faceplate of the server.
  - 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 17 and Figure 18.

**Figure 17**  
**ELAN connection on faceplate**



**Figure 18**  
**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 faceplate of the server.
  - 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 19 and Figure 20.

**Figure 19**  
**TLAN connection on faceplate**



**Figure 20**  
**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 21.

**Figure 21**  
**Installed Ethernet port adapter plate**



**11** Attach the ferrite beads to the Ethernet patch cables. See Figure 22.

**Figure 22**  
**Attached Ethernet patch cable ferrite beads**



---

**End of Procedure**

---

## **Installing a Nortel ISP1100 Signaling Server**

Complete Procedure 31 to install the ISP1100 Signaling Server hardware into the 19-inch rack. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312) for additional information.

**Note:** Save the packaging container and packing materials in the event you need to package the server for shipment.

## Accessories pouch

You require specific hardware to install the Nortel ISP1100 server in a 19-inch rack. This hardware is included in the Nortel ISP1100 server accessories pouch. The accessories pouch must contain the following items:

- Two support brackets (A)
- Two rack-mounting brackets (B)
- Six rack-mount bracket screws (ten 25 x 1/4 inch pan-head Phillips)

Refer to Figure 23.

**Figure 23**  
**ISP1100 Signaling Server mounting accessories**



**Procedure 31****Preparing an ISP1100 Signaling Server for rack-mounting**

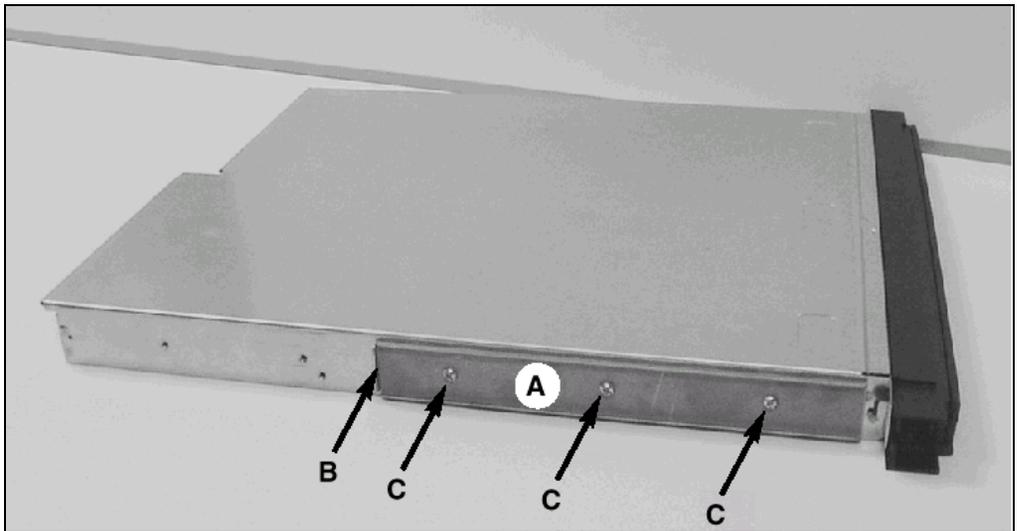
**Note:** The Front Mount Bracket assembly is not intended for use as a slide rail system. The ISP1100 Signaling Server must be firmly attached to the rack.

**WARNING**

The load rating for this mounting kit is 50 pounds. If you exceed this limit, damage or injury can occur.

- 1 Make sure the Nortel ISP1100 server is not plugged in to an electrical outlet.
- 2 Align the end of the rail with the flange (B) toward the rear of the ISP1100 Signaling Server. See Figure 24.

**Figure 24**  
**Nortel ISP1100 Support bracket**



- 3 Align the screw holes in the rack-mount rail to the mating holes in the side of the ISP1100 Signaling Server chassis. Use three screws (C) on each side.

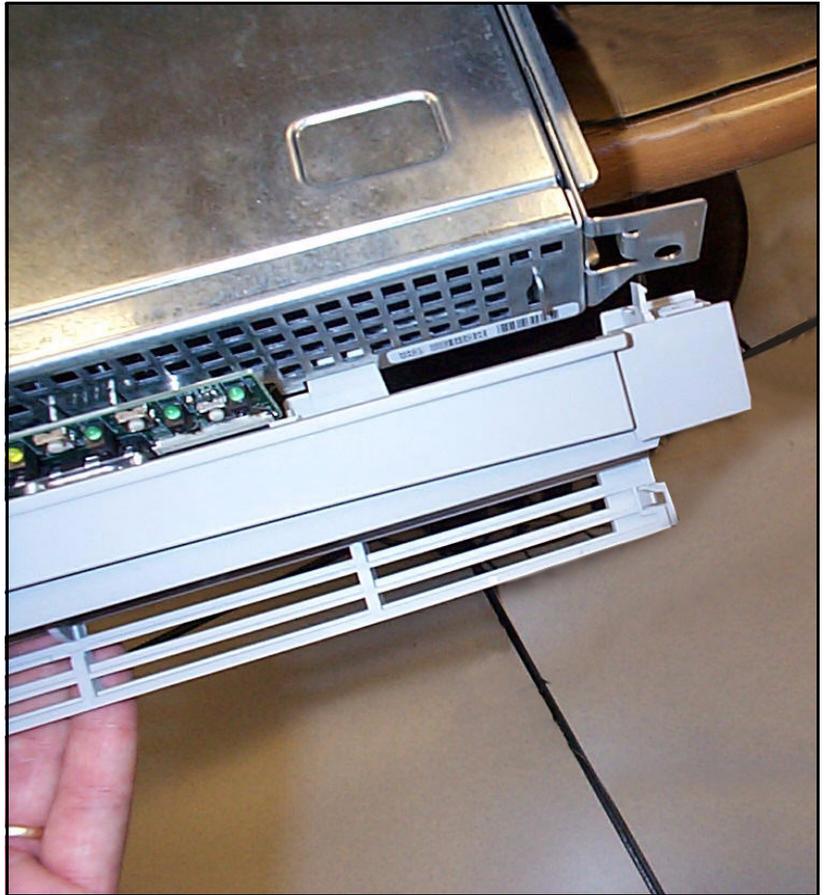
**Note:** Hand-tighten the screws to prevent cross-threading, then use a Phillips screwdriver to secure them.

- 4 Attach the bezel door to the faceplate of the Signaling Server, as shown in Figure 25 and Figure 26 on [page 143](#).

**Figure 25**  
**Left hinge mount**



**Figure 26**  
**Right hinge mount**



When the door is attached to the ISP1100 Signaling Server and rack-mount apparatus, it should appear as shown in [Figure 27 on page 144](#).

**Figure 27**  
**Snapped-in bezel door**



————— End of Procedure —————

## **Rack-mounting the Nortel ISP1100 server**

### **Procedure 32** **Rack-mounting a ISP1100 Signaling Server**

This procedure describes how to install the server in a rack.

Read the following warnings carefully before you begin installing the ISP1100 Signaling Server in the rack.

**DANGER OF ELECTRIC SHOCK****DISCONNECT AC POWER**

The ISP1100 Signaling Server must be completely disconnected from any AC power source before performing this procedure. Pressing the Power button **DOES NOT** turn off power to this Signaling Server. Some circuitry in the unit can continue to operate even though the front panel Power button is off.

Failure to disconnect the ISP1100 Signaling Server from its AC power source can result in personal injury or equipment damage.

**DANGER OF ELECTRIC SHOCK****GROUNDING THE RACK INSTALLATION**

To avoid the potential for an electrical shock hazard, include a third wire safety grounding conductor with the rack installation.

If the ISP1100 Signaling Server power cords are plugged into AC outlets that are part of the rack, then provide proper grounding for the rack itself.

If the ISP1100 Signaling Server power cords are plugged into wall AC outlets, the safety grounding conductor in each power cord provides proper grounding for the ISP1100 Signaling Server only. Provide additional, proper grounding for the rack and other devices installed in it.



**WARNING**

**MAIN AC POWER DISCONNECT**

A main AC power disconnect must be installed. The main AC power disconnect must:

- disconnect power to the entire rack unit
- be readily accessible
- be labeled as controlling power to the entire unit, not just to the ISP1100 Signaling Server(s)



**WARNING**

**OVERCURRENT PROTECTION**

The Nortel ISP1100 server is designed for an AC line voltage source with up to 20 amperes (A) of over-current protection. If you install the power system for the equipment rack on a branch circuit with more than 20 A of protection, provide supplemental protection for the Nortel ISP1100 server. If you install more than one server in the rack, the power source for each server must be from a separate branch circuit.

- 1 Attach the rack-mount brackets (“B” as shown in Figure 23 on [page 140](#)) to the equipment rack. Install the left and right side at an equal height. Use standard length screws from the accessories pouch, and screw them into the top and bottom drill holes of the bracket (see Figure 28 on [page 147](#)).

**Figure 28**  
**Installed rack-mount bracket**



- 2 When both brackets are fixed in place:
  - a. Align the rack-mount brackets on the ISP1100 Signaling Server with the slide rail system on the rack posts.
  - b. Slide the ISP1100 Signaling Server in place. Refer to Figure 29 on [page 148](#).

**Figure 29**  
**Rack-mounting the ISP1100 Signaling Server**



- 3** Tighten the screws through the faceplate of the ISP1100 Signaling Server to the rack-mount bracket.

**Note:** Do not apply excessive torque while tightening the bolts. The bezel door is plastic and does not require or withstand overtightening.

---

**End of Procedure**

---

## Connections

### 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 thus require no power cord.

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

**Table 15**  
**Connections checklist**

<b>Have you:</b>	
Obtained a serial cable (DTE-DTE null modem cable) to connect the server to a maintenance terminal?	
Obtained the NTA19EC cable (if you are connecting a Nortel CP PM server)? 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.	
Obtained the CAT5 cables (or better) to connect the server to the ELAN and TLAN subnets?	

### Connecting a Nortel CP PM Signaling Server

This section contains instructions for connecting the NTDW61BAE5 and NTDW66AAE5 models of the Nortel CP PM Signaling Server to the ELAN

and TLAN subnets of a CS 1000E and CS 1000M system respectively. It also contains instructions for connecting a maintenance terminal to the Nortel CP PM Signaling Server.

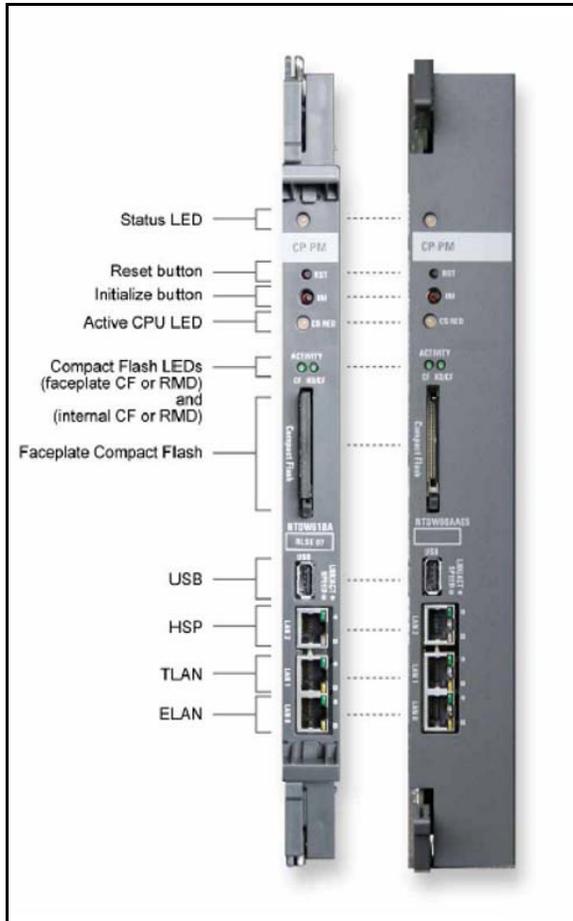
The NTDW61BAE5 model of the Nortel CP PM Signaling Server was designed for use in a CS 1000E system. As such, it is inserted into a slot of the Media Gateway (MG 1000E or MG 1000B). The Media Gateway also hosts the Media Gateway Controller (MGC) that has Ethernet ports for connecting to the ELAN and TLAN subnets of your CS 1000 system.

However, it is common in a CS 1000E system for the Call Server to be connected to the MGC through these ELAN and TLAN Ethernet ports. If the Call Server is not connected to the MGC through these Ethernet ports, the NTDW61BAE5 model of the CP PM Signaling Server uses them to connect to the ELAN and TLAN subnets of the CS 1000E system. If the Call Server is using the MGC ELAN and TLAN Ethernet ports, the Nortel CP PM Signaling Server is connected directly to the ELAN and TLAN Ethernet switches from the faceplate ELAN and TLAN Ethernet ports.

The NTDW66AAE5 model of the Nortel CP PM Signaling Server was designed for use in a CS 1000M system. As such, it is inserted into a slot of a Universal Equipment Module (UEM). UEMs do not have built-in ELAN and TLAN Ethernet ports. These Ethernet ports must be installed on the back of the UEM to enable the Nortel CP PM Signaling Server to connect to the ELAN and TLAN subnets of your CS 1000 system (see Procedure 30: "Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM" on [page 128](#).)

Figure 30 shows the faceplates of the two models of the Nortel CP PM Signaling Server with labeling for all components (NTDW61BAE5 on the left and NTDW66AAE5 on the right).

**Figure 30**  
**Faceplates of the Nortel CP PM server**



**Procedure 33**  
**Connecting a Nortel CP PM Signaling Server**

**Note:** Refer to Figure 30 when performing the following procedure.

- 1** Establish a maintenance terminal connection at the back of the shelf of the IPMG, IPE cube, or 11C chassis. The com (SDI) port of the CP PM circuit card Signaling Server is routed through the backplane of the shelf to the 50 pin MDF connector on the back of the shelf. A special cable is shipped with the CP PM signaling server that adapts the 50 pin MDF connector to a 25 pin DB connector (NTAK19EC). A DTE-DTE null modem serial cable is required to adapt the SDI port to a typical PC serial port.
  - a.** Connect the NTAK19EC cable (shipped with the CP PM Signaling Server) to the 50 pin MDF connector on the back of the desired shelf of the IPMG, IPE cube or 11C chassis.
  - b.** Connect a DTE-DTE null modem serial cable to the 25 pin DB connector at the end of the NTAK19EC cable.
  - c.** Connect the other end of the DTE-DTE null modem serial cable to the serial port on the maintenance terminal.
- 2** Insert the Signaling Server circuit card into an appropriate slot on the shelf of the IPMG, IPE cube, or 11C chassis. The CP PM Signaling Server is hot-pluggable so it may be inserted without powering off the system. The maintenance terminal now has access to the CP PM Signaling Server through the 50-pin MDF connector connected at the back of the shelf of the IPMG, IPE cube or 11C chassis.
- 3** Connect the Signaling Server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into the LAN1 port (TLAN network interface) on the front of the Signaling Server. The LAN1 port is the middle one of the three network interfaces.
- 4** Connect the Signaling Server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into the LAN0 port (ELAN network interface) on the front of the Signaling Server. The LAN0 port is the bottom one of the three network interfaces.

5 Set the COM port on the maintenance terminal as follows:

- Terminal type: VT100
- Speed: 9 600
- Data bits: 8
- Parity: none
- Stop bits: 1
- Flow control: none

**Note:** The CP PM Signaling Server is shipped with the Admin Serial port set to 9600 Bit/s. Other available speeds are 19 200, 38 400, and 115 200 Bits. You can change the port speed using the maintenance terminal. To verify or change the baud rate on a Nortel CP PM Signaling Server, see *Signaling Server: Installation and Commissioning* (NN43001-312).

6 Configure the Signaling Server maintenance terminal. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

---

**End of Procedure**

---

Complete Procedure 34 to connect a Nortel CP PM Signaling Server (model NTDW61BAE5) to the ELAN and TLAN subnets of a CS 1000E system.

### **Procedure 34**

#### **Connecting a CP PM Signaling Server to the ELAN and TLAN subnets of a CS 1000E system**

1 Connect the Signaling Server to the ELAN subnet.

- if the Call Server is not connected to the Media Gateway Controller (MGC)
  - Insert the end of one of the 25-cm RJ-45 CAT5 Ethernet cables shipped with the server (NTDU0606E6) into the ELAN network interface port (ELAN port) on the faceplate of the server
  - insert the other end of the 25-cm RJ-45 CAT5 Ethernet cable into the MGC ELAN Ethernet port
- if the Call Server is connected to the MGC

- Insert the end of a longer RJ-45 CAT5 Ethernet cable (not supplied) into the ELAN network interface port (ELAN port) on the faceplate of the server
  - Insert the other end of the RJ-45 CAT5 Ethernet cable into an Ethernet port on the ELAN Ethernet switch
- 2 Connect the Signaling Server to the TLAN subnet.
- if the Call Server is not connected to the Media Gateway Controller (MGC)
    - Insert the end of one of the 25-cm RJ-45 CAT5 Ethernet cables shipped with the server (NTDU0606E6) into the TLAN network interface port (TLAN port) on the faceplate of the server
    - Insert the other end of the 25-cm RJ-45 CAT5 Ethernet cable into the MGC TLAN Ethernet port
  - if the Call Server is connected to the MGC
    - Insert the end of a longer RJ-45 CAT5 Ethernet cable (not supplied) into the TLAN network interface port (TLAN port) on the faceplate of the server
    - Insert the other end of the RJ-45 CAT5 Ethernet cable into an Ethernet port on the TLAN Ethernet switch

---

**End of Procedure**

---

*Note:* If the Call Server is connected to the Media Gateway Controller, you can not use the 25-cm CAT5 Ethernet cables shipped with the Signaling Server (NTDU0606E6). You must obtain CAT5 Ethernet cables that are long enough to connect the Signaling Server directly to the ELAN and TLAN Ethernet switches from the faceplate ELAN and TLAN Ethernet ports.

Complete Procedure 35 to connect a Nortel CP PM Signaling Server (model NTDW66AAE5) to the ELAN and TLAN subnets of a CS 1000M system.

**IMPORTANT!**

Connecting a Nortel CP PM Signaling Server to the ELAN and TLAN subnets of a CS 1000M system causes a service disruption.

**Procedure 35****Connecting a CP PM Signaling Server to the ELAN and TLAN subnets of a CS 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 CS 1000M UEM. (You installed this ELAN port at the back of the UEM when you installed the Signaling Server in the UEM. See “Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM” on [page 128](#).)
- 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 CS 1000M UEM. (You installed this TLAN port at the back of the UEM when you installed the Signaling Server in the UEM (see “Installing ELAN and TLAN Ethernet ports on the back of a CS 1000M UEM” on [page 128](#)).
- 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**

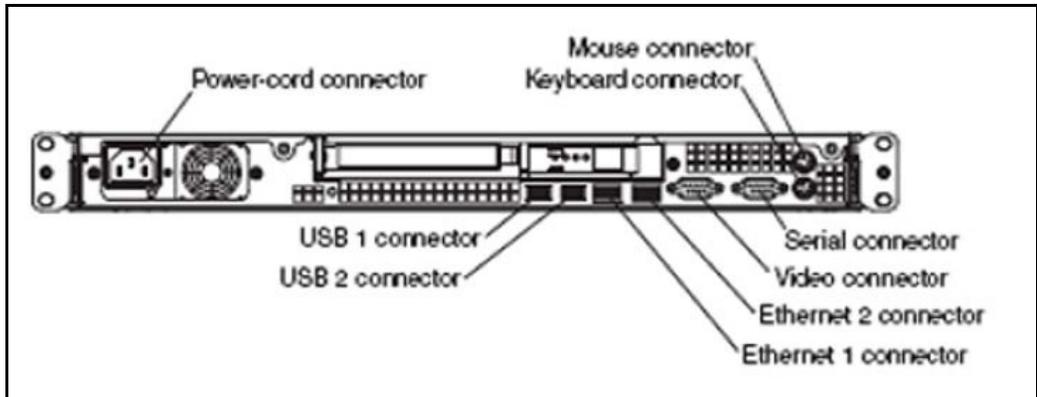
To verify or change the baud rate on a Nortel CP PM Signaling Server, see *Signaling Server: Installation and Commissioning* (NN43001-312).

**Connecting an IBM X306m Signaling Server**

In geographic regions that are susceptible to electrical storms, Nortel recommends that you plug the IBM X306m Signaling Server into an AC surge suppressor.

Figure 31 shows the rear view of the IBM X306m Signaling Server.

**Figure 31**  
**IBM X306m Signaling Server (rear view)**



*Note:* Refer to Figure 31 when performing the following procedure.

**Procedure 36**  
**Connecting an IBM X306m Signaling Server**

- 1 Connect the Signaling Server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable into Port 1 (TLAN network interface) on the back of the Signaling Server. Port 1 is the right-most of the two network interfaces.
- 2 Connect the Signaling Server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable into PEthernet 2 connector (ELAN network interface) on the back of the Signaling Server. Port 2 is the left-most of the two network interfaces.
- 3 Connect a DTE–DTE null modem serial cable from the serial port on the back of the Signaling Server to the serial port on a maintenance terminal.
- 4 Connect the Signaling Server power cord.
  - a. Check that the power cord is the type required in the region where the Signaling Server is used. 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 left side of the Signaling Server's 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 Signaling Server to 9 600 b/ps. See *Signaling Server: Installation and Commissioning* (NN43001-312).

**Note:** The IBM X306m Signaling Server ships with the serial port set to 9600 b/ps.

- 6 Configure the connected maintenance terminal. See *Signaling Server: Installation and Commissioning* (NN43001-312).
- 7 Press the Power switch.

**Note:** Refer to the Signaling Server Product Guide on the CD-ROM shipped with the IBM X306m Signaling Server for additional operating information.

---

End of Procedure

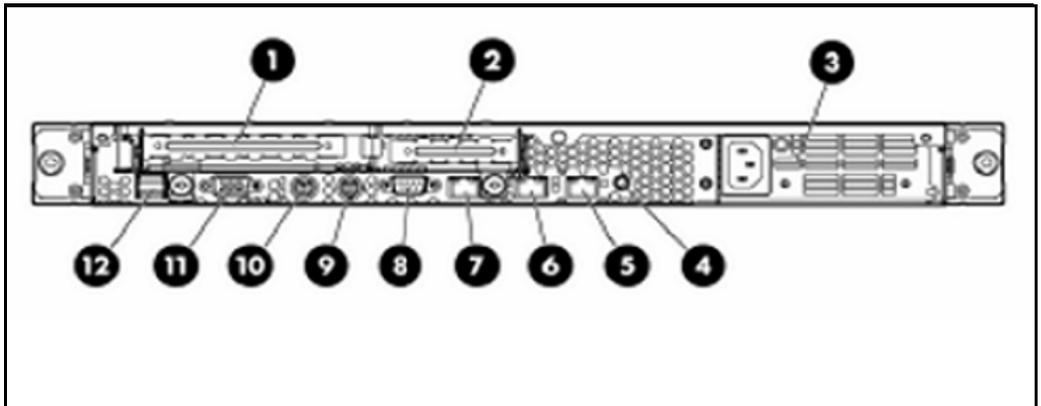
---

## Connecting an HP DL320-G4 Signaling Server

In geographic regions that are susceptible to electrical storms, Nortel recommends that you plug the HP DL320-G4 Signaling Server into an AC surge suppressor.

Figure 32 shows the rear view of the HP DL320-G4 Signaling Server.

**Figure 32**  
HP DL320-G4 Signaling Server (rear view)



**Procedure 37**

**Connecting an HP DL320-G4 Signaling Server**

- 1 Connect the Signaling Server to the TLAN subnet. Insert the RJ-45 CAT5 (or better) cable labeled with the number 5 into the port (TLAN network interface) on the back of the Signaling Server.
- 2 Connect the Signaling Server to the ELAN subnet. Insert the RJ-45 CAT5 (or better) cable labeled with the number 6 into the port (ELAN network interface) on the back of the Signaling Server.
- 3 Connect a DTE–DTE null modem serial cable from the Serial Port on the back of the Signaling Server to a maintenance terminal.
- 4 Connect the Signaling Server power cord.
  - a. Check that the power cord is the type required in the region where the Signaling Server is used. 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 Signaling Server's 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. Set the COM 1 baud rate for the serial port on the Signaling Server to 9 600 b/ps. See *Signaling Server: Installation and Commissioning* (NN43001-312).
- 6 Configure the connected maintenance terminal. See *Signaling Server: Installation and Commissioning* (NN43001-312).
- 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 *Signaling Server: Installation and Commissioning* (NN43001-312).

## Installing the Signaling Server software

### IMPORTANT!

The Signaling Server is out-of-service during software upgrade.

### Introduction

This section provides installation procedures for CS 1000 Release 5.0 Signaling Server software on an IBM X306m or HP DL320-G4 Signaling Server.

### IMPORTANT!

CP PM, IBM X306m and HP DL320-G4 Signaling Servers do not support any Signaling Server software prior to CS 1000 Release 5.0.

### IMPORTANT!

CS 1000 Release 5.0 Signaling Server software does not need to be installed on the CP PM Signaling Server. It is delivered with the Signaling Server software, operating system, applications and web files pre-loaded onto the hard drive. Only basic system configuration parameters need to be entered on the first boot of the CP PM Signaling Server.

### Before you begin

Before installing the software, you must do the following:

- Connect and power up the Signaling Server. See “Connections” on [page 149](#).
- For CP PM Signaling Servers, ensure that Switch S5 is set to position 2 (to support the internal hard disk drive)
- For IBM X306m and HP DL320-G4 Signaling Servers, you must obtain the CS 1000 Release 5.0 Signaling Server Software Install CD.

## Installing the software

To install software and enter basic system configuration parameters on an IBM X306m or HP DL320-G4 Signaling Server, complete Procedure 38.

### **Procedure 38** **Installing Signaling Server software**

Upon completion of Step 1, this procedure takes approximately 45 minutes to complete.

- 1 From your Planning and Engineering group, obtain the following network and IP Telephony data for this Signaling Server:
  - node ID for the IP Telephony node
  - node IP address for the IP Telephony node
  - hostname for the Signaling Server
  - ELAN network interface IP address, Subnet mask, and Gateway
  - TLAN network interface IP address, Subnet mask, and Gateway
  - ELAN network interface IP address of the Call Server
  - Primary and Alternate NRS IP addresses for this networked system. Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313)
  - NRS role, if applicable. Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313)
  
- 2 Boot the Signaling Server from the Removable Media Device (RMD):
  - For IBM X306m, HP DL320-G4, or Nortel ISP1100 Signaling Servers, insert the CS 1000 Release 5.0 Signaling Server Software CD into the CD drive and press the RST button on the front panel of the Signaling Server to trigger a cold boot. This forces the Signaling Server to boot from the CD.
  - For a Nortel CP PM Signaling Server, insert the CS 1000 Release 5.0 Signaling Server Software CF card into the faceplate CF drive and press the RST button on the faceplate of the Signaling Server to trigger a cold boot. The CP PM System BIOS Configuration screen appears (see Figure 33) with an instruction to press F to force the Signaling Server to boot from the CF card.

**Figure 33**  
**Nortel CP PM system BIOS configuration**

System BIOS Configuration, (C) 2005 General Software, Inc.			
System CPU	: Pentium M	Low Memory	: 632KB
Coprocessor	: Enabled	Extended Memory	: 1011MB
Ide 0 Type	: 3	Serial Ports 1-2	: 03F8 02F8
Ide 1 Type	: 3	ROM Shadowing	: Enabled
Ide 2 Type	: 3	BIOS Version	: NTDU74AA 15
Press F to force board to boot from faceplate drive.			
.....			

- The VxWorks™ banner screen appears (see Figure 34) followed by system messages indicating that the Signaling Server Software Installation Tool is being loaded from either the Signaling Server Software CD or CF Card.





The system verifies the file systems.

- If the hard drive of the Signaling Server is not partitioned, the file systems verification process fails. Upon failure, the menu in Figure 36 appears.

**Figure 36**  
**File systems verification failure**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

The filesystems verification failed! (This is normal for a new
system.)

The hard disk must be (re)partitioned and (re)initialized. This will
erase all data on the hard disk. The system will then reboot and
the Install Tool will restart.

Please enter:
<CR> -> <a> - Partition and initialize the hard disk, then reboot.

Enter Choice> a
```

- a. Enter a to partition and initialize the hard disk, and to reboot the Signaling Server.

The system displays the messages:

```
Partitioning hard disk ...
Hard disk partitioning succeeded.
```

```
Creating filesystems ...
Filesystems creation succeeded.
```

```
Rebooting system ...
```

- b. The Install Tool banner screen (Figure 35 on [page 163](#)) reappears. Go back to beginning of Step 2.. If the hard drive of the Signaling Server is partitioned, the following system messages appear.

```
Filesystems verification succeeded.
```

- c. Confirm or enter the date and time (Figure 37 on [page 165](#)).

**Figure 37**  
**Date and time**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

You should ensure the system date and time are correct prior to
installation, since all files copied or created during install will
be time-stamped.

You can press <CR> to accept the current values.

Current date is: FRIDAY 01-04-2006
Enter new date (dd mm yyyy): 04 04 2006
Date is set to: MONDAY 04-04-2006
Current time is: 09:47:18
Enter new time (hh mm ss): 08 38 30
Time is set to: 08:38:30
Current date and time is:
MONDAY 04-04-2005, 08:38:30
```

- When reinstalling the software on an existing system, the system verifies the file systems. The disk check reports:  
  
Filesystems verification succeeded.  
  
The system summary appears (Figure 38 on [page 166](#)). Enter **a** to continue the installation.  
  
**Note:** For a new installation, the data fields in the system summary are blank.

**Figure 38**  
**System Summary**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
-----
                        SYSTEM INFORMATION
-----

+=====+
| Hostname: SS_Node276_Ldr           S/W Ver: x.xx.xx          |
|                                     |                          |
|   Role: Leader                     Set TPS: Disabled          |
| Node ID:                            Vtrk TPS: Disabled         |
| Node IP:                            NRS Config: Alternate SIP    |
| H.323 ID: SS_Node276_Ldr           CS IP:                      |
|                                     |                          |
| ELAN IP: 192.168.10.20             TLAN IP: 192.168.20.20    |
| ELAN SM: 255.255.255.0             TLAN SM: 255.255.255.0    |
| ELAN GW: 192.168.10.1             TLAN GW: 192.168.20.1    |
| ELAN MAC: 00:02:b3:c5:51:c6       TLAN MAC: 00:02:b3:c5:51:c7    |
+=====+

Please enter:
<CR> -> <a> - Continue with Install Tool.
      <q> - Quit.

Enter Choice>
```

**Figure 39**  
**Install Tool Main Menu**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

                M A I N   M E N U

The Install Tool will install Signaling Server software and related
files. You will be prompted throughout the installation.

Please enter:
<CR> -> <a> - To perform a complete installation/upgrade (Signaling
          Server s/w, IP Phone f/w, Voice Gateway Media
          Card l/w, basic Signaling Server configuration).
<b> - To install/upgrade Signaling Server software only.
<c> - To copy IP Phone firmware only.
<d> - To copy Voice Gateway Media Card loadware only.
<e> - To perform basic Signaling Server configuration only.
<t> - To go to the Tools Menu.
<q> - Quit.

Enter Choice>
```

- 4** At the Main Menu (Figure 39), enter **a** to install Signaling Server software. Option **a** performs options **b**, **c**, **d**, and **e**.

The following sample lines display on the screen:

```
Copying "/cd0/sse37012.p3/disk.sys" to "/u/disk.sys".
Processing the install control file ...
"/cd0/sse37012.p3/install.dat" parsed.
```

The Dependency Lists installation screen appears (Figure 40).

**Figure 40**  
**Dependency lists installation**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

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>
```

- 5 Press <CR> or enter y to install the dependency lists. The Installation Status Summary screen appears:

The Installation status screen appears (Figure 41 on [page 169](#)).

**Figure 41**  
**Installation Status**

```

-----
                        INSTALLATION STATUS SUMMARY
-----
+-----+-----+-----+-----+
| Option | Choice | Status | Comment |
+-----+-----+-----+-----+
| Software | yes | | new install x.xx.xx |
+-----+-----+-----+-----+
| Dependency Lists | yes | | copy ALL |
+-----+-----+-----+-----+
| firmware | yes | | copy ALL |
+-----+-----+-----+-----+
| loadware | yes | | copy ALL |
+-----+-----+-----+-----+
| configuration | yes | | |
+-----+-----+-----+-----+

Please enter:
<CR> -> <y> - Yes, start complete installation.
        <n> - No, cancel complete installation and return to the Main
           Menu.

Enter Choice>

```

- 6** Enter **y** to start the installation. The screens shown in Figures 42 to 48, which start on [page 170](#), appear.

**Figure 42**  
**Installation output**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

You have selected to install version x.xx.xx on the system. As
this is a new install, all necessary directories and files will
be created on the hard disk.

Starting new install of version x.xx.xx.

Initializing protected partition ...
"/p" initialized.

Creating directory ... (many directories are created here) ...
Copying ... (many files are copied here) ...

Boot ROM "/p/load/bootrom.bin" installed.
```

**Figure 43**  
**Software installation success**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Software version x.xx.xx was installed successfully.

All files were copied to the hard disk.
```

**Figure 44**  
**IP Phone firmware**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

The installation source contains multiple Internet Telephone firmware
files.

Copying "/cd0/0603Bxx.bin" to "/u/fw/0603Bxx.bin".
Copying "/cd0/0602Bxx.bin" to "/u/fw/0602Bxx.bin".
Copying "/cd0/0604Dxx.bin" to "/u/fw/0604Dxx.bin".
```

**Figure 45**  
**Voice Gateway Media Card loadware**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

The installation source contains multiple Voice Gateway Media Card
loadware files.

Copying "/cd0/IPL4xxxx.p2" to "/u/fw/IPL4xxxx.p2".
Copying "/cd0/IPL4xxxx.sa" to "/u/fw/IPL4xxxx.sa".
```

- 7 After the Signaling Server software and system components are installed, the Restore IP configuration screen appears (Figure 46 on [page 172](#)).

**Figure 46**  
**Restore IP configuration**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please insert the database diskette in the removable drive
to restore the IP configuration to the hard disk

      Please enter:
<CR> -> <a> - Diskette is now in the removable drive.
          Continue.
      <b> - Continue without restoring the IP configuration
      <q> - Quit.

Enter Choice> b
```

**8** Do one of the following:

- If you are migrating a Leader Signaling Server (see "Signaling Server migration" in *Signaling Server: Installation and Commissioning* (NN43001-312), insert the Removable Media Device (RMD) into the appropriate drive, and press <CR> or enter a to restore the IP configuration data. After the restore is complete, the following system message appears:

Done copying IP configuration to disk

The IP Telephony parameter confirmation screen appears (Figure 47 on [page 173](#)). Go to step 12 on [page 198](#).

**Figure 47**  
**IP telephony parameter confirmation**

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
-----

You have entered the following parameters for this Leader SS :
(Press <a>-<l> to correct, <y> to proceed, <n> to reconfigure all.)

    Please enter:
<CR> -> <y> - Yes, these parameters are correct.
        <n> - Re-enter all of the parameters

        <a> - Node ID           I : 9
        <b> - Hostname           : CS1000E_PIV
        <c> - ELAN IP            : 192.167.102.4
        <d> - ELAN subnet mask  : 255.255.255.0
        <e> - ELAN gateway IP   : 192.167.102.1
        <f> - TLAN IP           : 192.167.103.2
        <g> - TLAN subnet mask  : 255.255.255.0
        <h> - TLAN gateway IP   : 192.167.103.1
        <i> - Node IP            : 192.167.103.3
        <j> - Call Server IP     : 192.167.102.3
              NRS configuration : Primary GK + SIP
        <k> - Primary NRS IP    : 192.167.103.2
        <l> - Alternate NRS IP  :

    Enter Choice>

```

- 9 If you are installing a new Signaling Server, or you are migrating a Follower or Standalone Signaling Server (see "Signaling Server migration" in *Signaling Server: Installation and Commissioning* (NN43001-312)), select b to bypass the restoration of IP configuration data. The Signaling Server role selection screen appears (Figure 48 on [page 174](#)).

**Figure 48**  
**Signaling Server role selection**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Note: This step will over-write all existing configuration parameters
      on this Signaling Server.
Please select the role of this Signaling Server.

If this Signaling Server will be a Leader then its data networking
and IP Telephony parameters must be entered now. (This will pre-
configure the IP Telephony node files.)

If this Signaling Server will be a Follower then its data networking
and IP Telephony parameters must be configured through Element
Manager later.

      Please enter:
<CR> -> <a> - Set this Signaling Server as a Leader.
      <b> - Set this Signaling Server as a Follower.
      <q> - Quit.

      Enter Choice>
```

**10** Configure the Signaling Server as Leader or Follower. See Figure 48 on [page 174](#).

- If there is already a Leader Signaling Server in the IP Telephony node, enter **b** at the prompt to set this Signaling Server as Follower. The Follower Signaling Server configuration screen appears (Figure 49 on [page 175](#)). Go to step 10 on [page 194](#).

**Figure 49**  
**Follower Signaling Server configuration**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

This Follower Signaling Server will obtain its data network and IP
telephony configuration from the Leader Signaling Server at boot.

To identify this Signaling Server, please enter a Hostname.

Hostname : SS_Node276_Ldr
```

- If there is not already a Leader Signaling Server in the IP Telephony node, or if the Signaling Server is to be a stand-alone Signaling Server, enter **a** at the prompt to configure this Signaling Server as Leader. The Application configuration screen appears (Figure 50 on [page 175](#)).

**Figure 50**  
**Application configuration**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the application configuration for this Signaling Server.

Please enter:
<CR> -> <a> - Co-resident (LTPS + VTRK + NRS).
        <b> - Stand-alone (NRS only - no Call Server).
        <q> - Quit.

Enter Choice>
```

- 11 Configure the application configuration for this Signaling Server. See Figure 50 on [page 175](#).
- If the IP Phone TPS, Virtual Trunk TPS, and optional Network Routing Service (NRS) applications are to be enabled on this Signaling Server, enter **a** at the prompt to configure this Signaling Server as a co-resident Signaling Server.
  - If only the NRS is to be enabled on this Signaling Server:
    - If this Signaling Server is to be associated with a Call Server, enter **a** at the prompt to configure this Signaling Server as a co-resident Signaling Server. After you have finished installing the Signaling Server software, you can disable the Set TPS and Virtual Trunk TPS in Element Manager (refer to *Element Manager: System Administration* (NN43001-332)).
    - If this Signaling Server is not to be associated with a Call Server, enter **b** at the prompt to set this Signaling Server as a stand-alone Signaling Server.

Depending on the application configuration selected, either the NRS - Coresident Signaling Server screen or the NRS - Standalone Signaling Server screen appears.

**Figure 51**  
**Network Routing Service (NRS) — co-resident Signaling Server**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the Network Routing Service (NRS) configuration for this
Signaling Server.

Please enter:
<CR> -> <a> - H.323 Gatekeeper and SIP Redirect/Proxy Server.
        <b> - H.323 Gatekeeper only.
        <c> - SIP Redirect/Proxy Server only.
        <d> - None.

Enter Choice>
```

**Figure 52**  
**Network Routing Service (NRS) — stand-alone Signaling Server**

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the Network Routing Service (NRS) configuration for this
Signaling Server.

Please enter:
<CR> -> <a> - H.323 Gatekeeper and SIP Redirect/Proxy Server.
        <b> - H.323 Gatekeeper only.
        <c> - SIP Redirect/Proxy Server only.

Enter Choice>

```

- 12** Select the Network Routing Service (NRS) to be provided by this Signaling Server. See Figure 51 on [page 176](#) for a co-resident Signaling Server or Figure 52 on [page 177](#) for a stand-alone Signaling Server.
- Enter **d** if this Signaling Server is configured as a Coresident Leader and is not providing an NRS. Go to step 13.
  - Press <CR> or enter **a** if this Signaling Server is to provide an H.323 Gatekeeper and a SIP Redirect/Proxy Server.
  - Enter **b** if this Signaling Server is to provide only an H.323 Gatekeeper.
  - Enter **c** if this Signaling Server is to provide only a SIP Redirect/Proxy Server. Refer to *Network Routing Service Installation and Commissioning* (NN43001-564) for more information on the NRS.

Depending on the application configuration selected, either the NRS type: Coresident Signaling Server screen or the NRS type: Standalone Signaling Server screen appears.

**Figure 53**  
**NRS type — co-resident Signaling Server**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the type of Network Routing Service (NRS) for this
Signaling Server.

    Please enter:
<CR> -> <a> - Primary.
        <b> - Alternate.
        <c> - Failsafe.

    Enter Choice>
```

**Figure 54**  
**NRS type — stand-alone Signaling Server**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the type of Network Routing Service (NRS) for this
Signaling Server.

    Please enter:
<CR> -> <a> - Primary.
        <b> - Alternate.

    Enter Choice>
```

- 13** Select the type of NRS to be provided by this Signaling Server. See Figure 53 for a co-resident Signaling Server.
- If this Signaling Server is to be the Primary NRS, enter **a**.
  - If this Signaling Server is to be the Alternate NRS, enter **b**.
  - If this Signaling Server is not a stand-alone Signaling Server and is to be the Fail-safe NRS, enter **c**.

Refer to *Network Routing Service Installation and Commissioning* (NN43001-564) for more information on the NRS.

Depending on whether the Signaling Server is configured as Leader or Standalone, either the Leader Signaling Server configuration screen (Figure 55) or the Standalone Signaling Server configuration screen (Figure 56) appears.

**Figure 55**  
**Leader Signaling Server configuration**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please enter the data networking and IP Telephony parameters for
this Leader Signaling Server.

Node ID           : 276

Hostname          : SS_Node276_Ldr

ELAN IP           : 192.168.10.20
ELAN subnet mask : 255.255.255.0
ELAN gateway IP  : 192.168.10.1

TLAN IP           : 192.168.20.20
TLAN subnet mask : 255.255.255.0
TLAN gateway IP  : 192.168.20.1

Node IP           : 192.168.10.20

Call Server IP   : 192.168.10.10
```

**Figure 56**  
**Stand-alone Signaling Server configuration**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please define the data networking parameters for this Standalone
Signaling Server. Note that the ELAN parameters are necessary for
management access (e.g. SNMP).

Hostname           : SS_SA

ELAN IP            : 192.168.10.20
ELAN subnet mask  : 255.255.255.0
ELAN gateway IP   : 192.168.10.1

TLAN IP            : 192.168.20.20
TLAN subnet mask  : 255.255.255.0
TLAN gateway IP   : 192.168.20.1
```

- 14** Enter the data networking and IP telephony parameters for the Signaling Server, as prompted. The IP information applies to a temporary IP Telephony node, to ensure that the existing node is not affected. The entry of data networking and IP telephony parameters also preconfigures the IP Telephony node files. After the Signaling Server software installation, the node files are imported into Element Manager for further configuration (see "Importing IP Telephony nodes" in *Signaling Server: Installation and Commissioning* (NN43001-312)).
- If this is a Leader Signaling Server, enter the parameters for the Node, ELAN network interface, TLAN network interface, and Call Server as required.
    - If installing the Signaling Server at an office that is not a branch office, enter the ELAN network interface IP address of the Call Server.
    - If installing the Signaling Server at a branch office, enter the ELAN network interface IP address of the MG 1000B Core.
  - If this is a Follower Signaling Server, enter the Hostname of the Leader Signaling Server. Then go to step 16 on [page 183](#).
  - If this is a stand-alone Signaling Server and not associated with a Call Server (that is, **b** was selected in step 11 on [page 176](#)), enter the

TLAN subnet parameters as required. The Call Server IP address is automatically set to 0.0.0.0.

Depending on whether the Signaling Server is configured as Primary, Alternate, or Standalone, either the Primary NRS IP address screen, the Alternate NRS IP address screen, or both (in succession) appear. Both screens appear in succession for a Standalone Signaling Server.

**Figure 57**  
**Primary NRS IP address**

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Please enter the Primary NRS IP Address:
Primary NRS IP   :

```

**Figure 58**  
**Alternate NRS IP address**

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Please enter the Alternate NRS IP Address:
Alternate NRS IP :

```

- 15 Enter the Primary NRS IP address or the Alternate NRS IP address, depending on the option entered in step 12 on [page 177](#) or step 13 on [page 178](#).
  - If **a** was entered in step 13, you can enter the address of the Alternate NRS if you know it, but it is not required. See.
  - If **b** was entered in step 13, enter the address of the Primary NRS..
  - If **c** was entered in step 13:
    - Enter the address of the Primary NRS..
    - Enter the address of the Alternate NRS.
  - If **d** was entered in step 12:

- Enter the address of the Primary NRS (optional).
- If you did enter the address of the Primary NRS, enter the address of the Alternate NRS (also optional).

The Gatekeeper configuration can be updated later using Element Manager.

The IP Telephony parameter confirmation screen appears (Figure 59).

**Figure 59**  
**IP Telephony parameter configuration**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

You have entered the following parameters for this Leader
Signaling Server:

Node ID           : 276
Hostname          : SS_Node276_Ldr
ELAN IP           : 192.168.20.100
ELAN subnet mask : 255.255.255.0
ELAN gateway IP  : 192.168.10.1
TLAN IP           : 192.168.20.20
TLAN subnet mask : 255.255.255.0
TLAN gateway IP  : 192.168.20.1
Node IP           : 192.168.20.100
Call Server IP   : 192.168.10.10
NRS configuration: Alternate GK + SIP
Primary NRS IP   : 192.168.20.10
Alternate NRS IP : 192.168.20.24

Please enter:
<CR> -> <y> - Yes, these parameters are correct.
      <n> - No, these parameters are not correct.

Enter Choice>
```

**16** Enter <CR> or **y** to confirm the parameters.

The example in Figure 59 on [page 182](#) is for a Leader Signaling Server configured with an Alternate H.323 and SIP NRS. The confirmation screens for a Follower and stand-alone Signaling Server are similar, showing the same list of parameters, specifically:

- The configuration screen for the Follower Signaling Server displays only the value for the Hostname parameter; all other values are blank.
- The configuration screen for the stand-alone Signaling Server displays values for the Hostname, ELAN network interface, TLAN network interface, and NRS parameters. The Node ID field is set to 0. The Call Server IP field is set to 0.0.0.0.

After you confirm the IP configuration, the following system messages appear:

```
For future reference, the ELAN MAC address is:  
"00:02:b3:c5:51:c6".
```

```
Wrote config file "/u/config/bootp.tab".
```

```
Wrote config file "/boot/nvram.sys".
```

```
Wrote config file "/u/config/config.ini".
```

```
Wrote config file "/u/config/nrsconf.xml".
```

**Note:** You must configure the ELAN network interface MAC address for the newly installed Signaling Server in the Element Manager node configuration web page.

**17** To complete the installation, the Installation Status Summary screen appears as shown in Figure 60 on [page 184](#).

**Figure 60**  
**Installation Status Summary**

```

-----
                    INSTALLATION STATUS SUMMARY
                    -----
+-----+-----+-----+-----+
| Option      | Choice | Status | Comment                                     |
+-----+-----+-----+-----+
| software    | yes    | ok    | new install x.xx.xx                       |
+-----+-----+-----+-----+
| Dependency Lists| yes    | ignore| copy NONE                                  |
+-----+-----+-----+-----+
| firmware    | yes    | ok    | copy Ixxxx version x.xx                   |
| firmware    | yes    | ok    | copy Ixxxx version x.xx                   |
| firmware    | yes    | ok    | copy PhaseX IP Firmware version x.xx     |
| firmware    | yes    | ok    | copy Ixxxx IP Firmware version x.xx     |
| firmware    | yes    | ok    | copy Ixxxx IP Firmware version x.xx     |
| firmware    | yes    | ok    | copy Ixxxx IP Firmware version x.xx     |
| firmware    | yes    | ok    | copy Ixxxx IP Firmware version x.xx     |
+-----+-----+-----+-----+
| loadware    | yes    | ok    | copy IP Line x.xx.xx for P2               |
| loadware    | yes    | ok    | copy IP Line x.xx.xx for SA              |
| loadware    | yes    | ok    | copy IP Line x.xx.xx for MC32S          |
+-----+-----+-----+-----+
| configuration | yes    | ok    | set as Leader                             |
+-----+-----+-----+-----+
Please press <CR> when ready ...

```

- 18** Press <CR> to exit to the Main Menu (see Figure 61 on [page 185](#)). Enter q at the Main Menu to quit the installation process. Figure 62 on [page 185](#) appears. Enter q again.

**Figure 61**  
**Install Tool Main Menu**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

                M A I N   M E N U

The Install Tool will install Signaling Server software and related
files. You will be prompted throughout the installation.

Please enter:
<CR> -> <a> - To perform a complete installation/upgrade (Signaling
          Server s/w, IP Phone f/w, Voice Gateway Media
          Card l/w, basic Signaling Server configuration).
<b> - To install/upgrade Signaling Server software only.
<c> - To copy IP Phone firmware only.
<d> - To copy Voice Gateway Media Card loadware only.
<e> - To perform basic Signaling Server configuration only.
<t> - To go to the Tools Menu.
<q> - Quit.

Enter Choice>
```

**Figure 62**  
**Quit**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

You have selected to quit the Install Tool.

Before quitting and rebooting the system, remove all disks (floppy,
CDROM) from the drives.

Please enter:
<CR> -> <m> - Return to previous menu.
        <q> - Quit and reboot the system.

Enter Choice> q
```

- 19** Remove the Signaling Server Software CD or the Signaling Server Software CF Card (as appropriate) from the RMD drive of the Signaling Server and enter `q` to close/terminate the Installation Tool and reboot the system. The following system messages appear:

```
Removing temporary file "/u/disk.sys".
```

```
Rebooting system ....
```

---

**End of Procedure**

---

## First boot of a new Nortel CP PM Signaling Server

Nortel CP PM Signaling Servers have CS 1000 Release 5.0 software, applications, operating system, and web files preloaded on the hard drive when they are shipped. On the first boot of a Nortel CP PM Signaling Server, the Signaling Server Software Installation Tool prompts you to enter basic system configuration parameters.

### Before you begin

Before booting the new Nortel CP PM Signaling Server for the first time and entering basic system configuration parameters, you must perform the following tasks:

- Install and connect the Signaling Server (refer to “Installing the CP PM Signaling Server hardware” on [page 125](#)).
- Obtain the network and IP Telephony data for the Signaling Server from your Planning and Engineering group:
  - node ID for the IP Telephony node
  - node IP address for the IP Telephony node
  - hostname for the Signaling Server
  - ELAN network interface IP address, Subnet mask, and Gateway
  - TLAN network interface IP address, Subnet mask, and Gateway
  - ELAN network interface IP address of the Call Server



- 2 Press <CR> to continue with the configuration. The Restore IP configuration screen appears (Figure 64).

**Figure 64**  
**Restore IP configuration**

```
CS 1000 signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please insert the database diskette in the removable drive
to restore the IP configuration to the hard disk

Please enter:
<CR> -> <a> - Diskette is now in the removable drive.
        Continue.
        <b> - Continue without restoring the IP configuration
        <q> - Quit.

Enter Choice> b
```

- 3 Enter b at the prompt to bypass the restore of IP configuration data. The CP PM board location screen appears (Figure 65).

**Figure 65**  
**CP PM board location**

```
CS 1000 signaling server software Install Tool (sse-x.xx.xx)
=====

This CS 1000 signaling server is currently located in the IPMG
configured as (Loop-Shelf-Card) :

Please enter new IPMG location for this CPPM SS, or press <CR> to skip.
Note: If the IPMG has not been configured yet, the IPMG loop and
      shelf information can be left as the current value. To update
      the loop and the shelf information later, use OAM shell)

New IPMG location (Loop and shelf only) [LL SS] :
```

- 4 Enter the location (loop and shelf) of the IPMG board.

**Note:** If the IPMG has not been configured yet, the loop and shelf information can be left at the current value. The IPMG board location can be updated using OAM shell commands after the Signaling Server is configured.

- 5 The Leader/Follower configuration screen appears (Figure 66).

**Figure 66**  
**Leader/Follower Signaling Server configuration**

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Note: This step will over-write all existing configuration parameters
      on this Signaling Server.

Please select the role of this Signaling Server.

If this Signaling Server will be a Leader then its data networking
and IP Telephony parameters must be entered now. (This will pre-
configure the IP Telephony node files.)

If this Signaling Server will be a Follower then its data networking
and IP Telephony parameters must be configured through Element
Manager later.

      Please enter:
<CR> -> <a> - Set this Signaling Server as a Leader.
      <b> - Set this Signaling Server as a Follower.
      <q> - Quit.

      Enter Choice>

```

- 6 Configure the Signaling Server as a Leader or Follower. If there is already a Leader Signaling Server in the IP Telephony node, enter b at the prompt to configure this Signaling Server as Follower. The Follower Signaling Server configuration screen appears (Figure 67). Go to step 15 on [page 181](#).

**Figure 67**  
**Follower Signaling Server configuration**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

This Follower Signaling Server will obtain its data network and IP
telephony configuration from the Leader Signaling Server at boot.

To identify this Signaling Server, please enter a Hostname.

Hostname : SS_Node276_Ldr
```

- 7 If there is not a Leader Signaling Server in the IP Telephony node already, or if the Signaling Server is to be a stand-alone Signaling Server, press <CR> or enter a at the prompt to configure this Signaling Server as Leader.

- 8** Configure the application configuration for this Signaling Server. See Figure 68.
- If you are planning on enabling the IP Phone TPS, Virtual Trunk TPS, and optional Network Routing Service (NRS) applications on this Signaling Server, enter **a** at the prompt to configure this Signaling Server as a co-resident Signaling Server.
  - If you are planning on enabling only the NRS on this Signaling Server:
    - If this Signaling Server is to be associated with a Call Server, enter **a** at the prompt to configure this Signaling Server as a co-resident Signaling Server. After you finished installing the Signaling Server software, you can disable the IP Phone TPS and Virtual Trunk TPS in Element Manager (refer to *Element Manager: System Administration* (NN43001-332)).
    - If this Signaling Server is not to be associated with a Call Server, enter **b** at the prompt to set this Signaling Server as a Standalone Signaling Server - NRS.

**Figure 68**  
**Application configuration**

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
Please select the application configuration for this Signaling Server.

Please enter:
<CR> -> <a> - Co-resident (LTPS + VTRK + NRS).
        <b> - Stand-alone (NRS only - no Call Server).
        <q> - Quit.

Enter Choice>

```

Depending on the application configuration selected, either the NRS type: co-resident Signaling Server screen (Figure 69 on [page 192](#)) or the NRS type: standalone Signaling Server screen (Figure 70 on [page 192](#)) appears.

**Figure 69**  
**Standalone Signaling Server - NRS**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the Network Routing Service (NRS) configuration for this
Signaling Server.

Please enter:
<CR> -> <a> - H.323 Gatekeeper and SIP Redirect/Proxy Server.
        <b> - H.323 Gatekeeper only.
        <c> - SIP Redirect/Proxy Server only.

Enter Choice>
```

**Figure 70**  
**NRS type — co-resident Signaling Server**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please select the type of Network Routing Service (NRS) for this
Signaling Server.

Please enter:
<CR> -> <a> - Primary.
        <b> - Alternate.
        <c> - Failsafe.

Enter Choice>
```

- 9** Select the type of NRS to be provided by this Signaling Server. See Figure 70 for a co-resident Signaling Server. See Figure 69 for a stand-alone Signaling Server.
- If this Signaling Server is to be the Primary NRS, enter **a**.
  - If this Signaling Server is to be the Alternate NRS, enter **b**.
  - If this Signaling Server is not a stand-alone Signaling Server and is to be the Fail-safe NRS, enter **c**.

Refer to *IP Peer Networking: Installation and Commissioning* (NN43001-313) for more information on the NRS.

Depending on whether the Signaling Server is configured as Leader, Follower or Stand-alone, the Leader Signaling Server configuration screen (Figure 71), the Follower Signaling Server configuration screen (Figure 72) or the Stand-alone Signaling Server configuration screen (Figure 73) appears.

**Figure 71**  
**Leader Signaling Server configuration**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please enter the data networking and IP Telephony parameters for
this Leader Signaling Server.

Node ID           : 276

Hostname          : SS_Node276_Ldr

ELAN IP           : 192.168.10.20
ELAN subnet mask : 255.255.255.0
ELAN gateway IP  : 192.168.10.1

TLAN IP           : 192.168.20.20
TLAN subnet mask : 255.255.255.0
TLAN gateway IP  : 192.168.20.1

Node IP           : 192.168.10.20

Call Server IP    : 192.168.10.10
```

**Figure 72**  
**Follower Signaling Server configuration**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

This Follower Signaling Server will obtain its data network and IP
telephony configuration from the Leader Signaling Server at boot.

To identify this Signaling Server, please enter a Hostname.

Hostname : SS_Node276_Ldr
```

**Figure 73**  
**Stand-alone Signaling Server configuration**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

Please define the data networking parameters for this Standalone
Signaling Server. Note that the ELAN parameters are necessary for
management access (e.g. SNMP).

Hostname           : SS_SA
ELAN IP            : 192.168.10.20
ELAN subnet mask  : 255.255.255.0
ELAN gateway IP   : 192.168.10.1

TLAN IP           : 192.168.20.20
TLAN subnet mask  : 255.255.255.0
TLAN gateway IP   : 192.168.20.1
```

- 10** Enter the data networking and IP telephony parameters for the Signaling Server, as prompted.
- If this is a Leader Signaling Server, enter the parameters for the Node, ELAN network interface, TLAN network interface, and Call Server as required. See Figure 55 on [page 179](#). For the Call Server:
    - If installing the Signaling Server at an office that is not a branch office, enter the ELAN network interface IP address of the Call Server.
    - If installing the Signaling Server at a branch office, enter the ELAN network interface IP address of the MG 1000B Core.
  - If this is a Follower Signaling Server, enter the Hostname of the Leader Signaling Server. The IP telephony parameter configuration screen appears (Figure 74 on [page 195](#)).

**Figure 74**  
**IP Telephony parameter configuration**

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
-----

You have entered the following parameters for this Leader SS :
(Press <a>-<l> to correct, <y> to proceed, <n> to reconfigure all.)

Please enter:
<CR> -> <y> - Yes, these parameters are correct.
        <n> - Re-enter all of the parameters

        <a> - Node ID           I : 9
        <b> - Hostname          : CS1000E_PIV
        <c> - ELAN IP           : 192.167.102.4
        <d> - ELAN subnet mask  : 255.255.255.0
        <e> - ELAN gateway IP   : 192.167.102.1
        <f> - TLAN IP           : 192.167.103.2
        <g> - TLAN subnet mask   : 255.255.255.0
        <h> - TLAN gateway IP    : 192.167.103.1
        <i> - Node IP           : 192.167.103.3
        <j> - Call Server IP     : 192.167.102.3
        NRS configuration      : Primary GK + SIP
        <k> - Primary NRS IP    : 192.167.103.2
        <l> - Alternate NRS IP  :

Enter Choice>

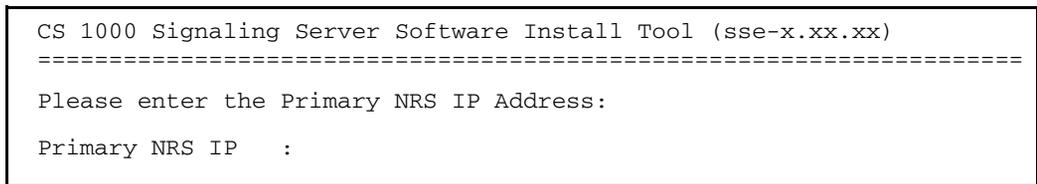
```

- Proceed to step 16 on [page 183](#).
- If this is a stand-alone Signaling Server and not associated with a Call Server (that is, **b** was selected in step 11 on [page 176](#)), enter the TLAN subnet parameters as required. The Call Server IP address is automatically set to 0.0.0.0.

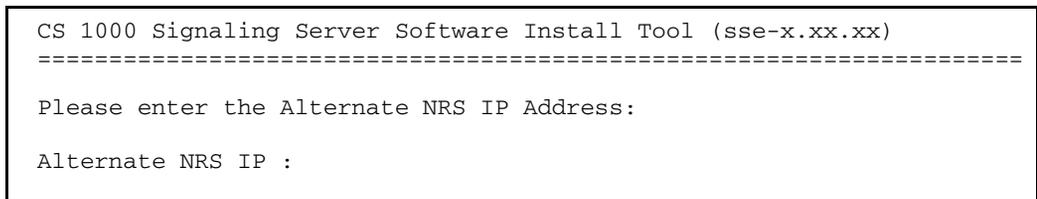
The IP information applies to a temporary IP Telephony node. This ensures that the existing node is not impacted. This also preconfigures the IP Telephony node files. In *Signaling Server: Installation and Commissioning* (NN43001-312), the node files are imported to Element Manager for further configuration.

Depending on whether the Signaling Server is configured as Primary, Alternate or Stand-alone, the Primary NRS IP address screen (Figure 75), the Alternate NRS IP address screen (Figure 76), or both in succession (for a Stand-alone Signaling Server) appear.

**Figure 75**  
**Primary NRS IP address**



**Figure 76**  
**Alternate NRS IP address**



- 11 Enter the Primary NRS IP address or the Alternate NRS IP address, depending on the option entered in step 12 on [page 177](#) or step 13 on [page 178](#).
  - If **a** was entered in step 13, you can enter the address of the Alternate NRS if you know it, but it is not required. See Figure 58 on [page 181](#).
  - If **b** was entered in step 13, enter the address of the Primary NRS. See Figure 57 on [page 181](#).
  - If **c** was entered in step 13:
    - Enter the address of the Primary NRS. See Figure 57.
    - Enter the address of the Alternate NRS. See Figure 58.
  - If **d** was entered in step 12:
    - Enter the address of the Primary NRS (optional).

- If you did enter the address of the Primary NRS, enter the address of the Alternate NRS (also optional).

The Gatekeeper configuration can be updated later using Element Manager. The IP telephony parameter configuration screen appears (Figure 77).

**Figure 77**  
**IP Telephony parameter configuration**

```

CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
-----

You have entered the following parameters for this Leader SS :
(Press <a>-<l> to correct, <y> to proceed, <n> to reconfigure all.)

Please enter:
<CR> -> <y> - Yes, these parameters are correct.
      <n> - Re-enter all of the parameters

      <a> - Node ID           I : 9
      <b> - Hostname          : CS1000E_PIV
      <c> - ELAN IP           : 192.167.102.4
      <d> - ELAN subnet mask : 255.255.255.0
      <e> - ELAN gateway IP  : 192.167.102.1
      <f> - TLAN IP          : 192.167.103.2
      <g> - TLAN subnet mask : 255.255.255.0
      <h> - TLAN gateway IP  : 192.167.103.1
      <i> - Node IP           : 192.167.103.3
      <j> - Call Server IP   : 192.167.102.3
           NRS configuration : Primary GK + SIP
      <k> - Primary NRS IP   : 192.167.103.2
      <l> - Alternate NRS IP :

Enter Choice>

```

**12** Press <CR> or enter *y* to confirm all parameters entered, *n* to re-enter all parameters, or a letter *a* through *I* to change the value of the corresponding system parameter. The configuration screens for a Follower and Standalone Signaling Server - NRS are similar, showing the same list of parameters, specifically:

- The screen for the Follower Signaling Server displays only the value for the Hostname parameter; all other values are blank.
- The screen for the stand-alone Signaling Server displays values for the Hostname, ELAN network interface, TLAN network interface, and NRS parameters. The Node ID field is set to 0. The Call Server IP field is set to 0.0.0.0.

The following message is displayed:

**For future reference, the ELAN MAC address is:  
"00:02:b3:c5:51:c6".**

**Note:** The ELAN network interface MAC address must be configured in the Element Manager node configuration web page.

The Install Tool Main Menu screen appears (Figure 78):

**Figure 78**  
**Install tool**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====

                M A I N   M E N U

The Install Tool will install Signaling Server software and related
files. You will be prompted throughout the installation.

Please enter:
<CR> -> <a> - To perform a complete installation/upgrade (Signaling
          Server s/w, Internet Telephone f/w, Voice Gateway Media
          Card l/w, basic Signaling Server configuration).
<b> - To install/upgrade Signaling Server software only.
<c> - To copy Internet Telephone firmware only.
<d> - To copy Voice Gateway Media Card loadware only.
<e> - To perform basic Signaling Server configuration only.
<f> - To selectively change initial system parameters.
<g> - To change board location information (CPPM only).
<t> - To go to the Tools Menu.
<q> - Quit.

Enter Choice> q
```

- 13** Enter **q** to quit the Install Tool. Confirm to reboot the system. The Installation Tool quit confirmation screen appears (Figure 79).

**Figure 79**  
**Installation Tool quit confirmation**

```
CS 1000 Signaling Server Software Install Tool (sse-x.xx.xx)
=====
You have selected to quit the Install Tool.

Before quitting and rebooting the system, remove all disks (floppy,
CDROM) from the drives.

Please enter:
<CR> -> <m> - Return to previous menu.
        <q> - Quit and reboot the system.

Enter Choice> q
```

- 14 Enter **q** to close/terminate the Installation Tool and reboot the Signaling Server.

---

**End of Procedure**

---

## Adding a follower Signaling Server

After configuration and reboot, a Follower Signaling Server sends out BOOTP requests and waits for a response. Since the Follower Signaling Server is not yet configured in an IP Telephony node, there is no BOOTP response. Do not wait for this response. Complete Procedure 40, “Adding a Follower Signaling Server to an IP Telephony node,” on [page 201](#) .

**Procedure 40****Adding a Follower Signaling Server to an IP Telephony node**

**Note:** The first time the Follower Signaling Server is installed, it cannot obtain the system login and password, and does not have the current CONFIG.INI file with the Call Server IP address, therefore the FTP fails. In subsequent Follower installations, FTP succeeds.

- 1 Open the Web browser.
- 2 Enter the **Signaling Server Node IP address** in the Address Bar of the browser window and press Enter on the keyboard.

**Note:** The ELAN network interface IP address can be required, instead of the Node IP address, to access the Element Manager login Web page in secure environments.

- 3 The Element Manager **Login** Web page opens.
  - a. Enter a valid **User ID** and **Password** combination.
    - A valid User Id and Password combination is one that is defined on the Call Server.

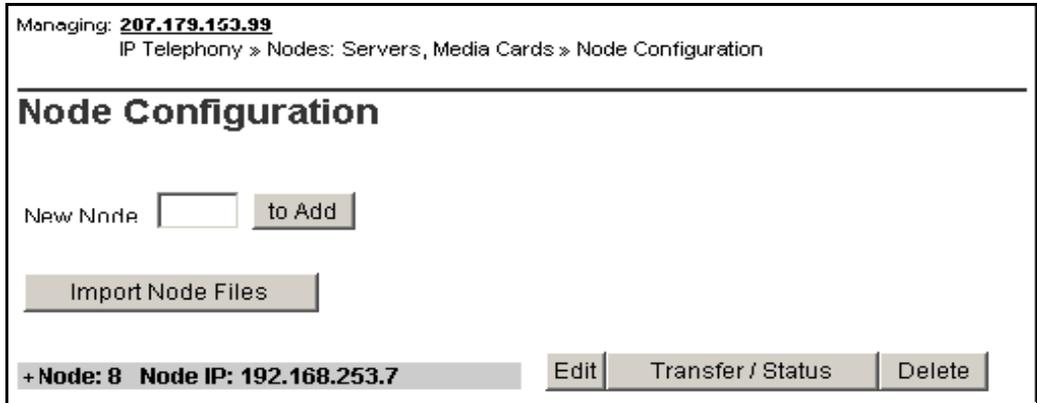
The IP Address of the Call Server appears in the Call Server IP Address field.

- b. Click **Login**.

The System Overview Web page appears.

- 4 Select **IP Network > Nodes: Servers, Media Cards** from the navigator. The Node Configuration web page opens, as shown in Figure 80.

**Figure 80**  
**Node Configuration web page**



- 5 Click Edit next to the node to which the Follower Signaling Server is to be added. The Edit web page opens, as shown in Figure 81.

**Figure 81**  
**Edit web page**

Managing: **Navigation System Name (192.167.102.3)**  
 System » IP Network » Node Configuration » IP Telephony: Node ID 9 » Edit

## Edit

**- IP Telephony Node**

**Node ID 9**

**Telephony LAN (TLAN) Node IP address**  \*

**Embedded LAN (ELAN) gateway IP address**

**Embedded LAN (ELAN) subnet mask**

**Voice LAN (TLAN) subnet mask**

+ **VGW and IP phone codec profile**

+ **QoS**

+ **LAN configuration**

+ **SNTP**

+ **Virtual Trunk Network Health Monitor configuration**

+ **H323 GW Settings**

+ **Firmware**

+ **SIP GW Settings**

+ **SIP URI Map**

+ **SIP CD Services**

+ **SIP CTI Services**

+ **Cards**

+ **Signaling Servers**

*\*Mandatory fields of current configuration*

- 6 Click Add next to Signaling Servers. The section expands to show a list of Signaling Servers and a blank template for entering Signaling Server xxx.xxx.xxx.xxx properties, as shown in Figure 82.

**Figure 82**  
**Signaling Server properties template**

- Signaling Servers	Add
+ Signaling Server 192.167.102.4 Properties	Remove
- Signaling Server 0.0.0.0 Properties	Remove

**Role** Unknown  
**Type** UnknownSS

**Embedded LAN (ELAN) IP address** 0.0.0.0 \*  
**Embedded LAN (ELAN) MAC address** 00:00:00:00:00:00 \*  
**Telephony LAN (TLAN) IP address** 0.0.0.0 \*  
**Telephony LAN (TLAN) gateway IP address** 0.0.0.1  
**Hostname** Hostname \*  
**H323 ID** CS1000E\_PIV

**Enable Line TPS**

**Enable IP Peer Gateway (Virtual Trunk TPS)** None

If Telephony LAN(TLAN) IP address and Telephony LAN(TLAN) gateway IP Telephony LAN(TLAN) Node IP address when Line TPS or IP Peer Gateway applications will not run.

**Enable SIP Proxy / Redirect Server**

**Local SIP TCP/UDP Port to Listen to** 5060

**SIP Domain name**

**SIP Gateway Endpoint Name**

**SIP Gateway Authentication Password**

**Enable Gatekeeper**

**Network Routing Service Role**

*\*Mandatory fields of current configuration*

- 7 Enter the information corresponding to the Follower Signaling Server. The Role field will automatically revert to Follower once the Follower Signaling Server has been added.

- 8 Click Save and Transfer to transfer the updated IP Telephony node information to the other elements of the node. Refer to Transferring IP Telephony files, and *IP Line: Description, Installation, and Operation* (NN43001-500) for detailed instructions on transferring IP Telephony node information.

---

**End of Procedure**

---

## Unpacking Help files for Virtual Terminal Emulator

Help files for the Virtual Terminal Emulator (VTE) component of Element Manager are copied to the Signaling Server as compressed files during installation of the Signaling Server software.

Unpacking the Help files is optional. However, they can be unpacked at any time after the Signaling Server software is installed. To unpack the files, refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

### **IMPORTANT!**

Unpacking the Help files takes approximately 20 to 30 minutes. Nortel recommends that you unpack the files during a service outage.

Refer to *Element Manager: System Administration* (NN43001-632) for more information on Element Manager and the Virtual Terminal Emulator.

## Logging in to the Signaling Server

Use Procedure 41 on [page 206](#) to log in to the vxWorks™ shell to access the Signaling Server from a maintenance terminal.

**Procedure 41**  
**Logging in to the Signaling Server**

Before you begin, make sure the DTE–DTE null modem cable (supplied with the Signaling Server) runs between the serial port on the back of the Signaling Server and the maintenance terminal.

- 1 Make sure the Signaling Server is powered up and connected to the maintenance terminal. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

The Signaling Server must boot successfully before the user can log in.

- 2 Press <CR> to invoke the login prompt.
- 3 Enter the login credentials by doing one of the following:
  - If the Signaling Server has connected to the Call Server (the startup messages indicate if the PBX link is up), use the PWD1 login to access the Signaling Server.
  - If the Signaling Server is not connected to the Call Server:
    - a. Enter the default Signaling Server Command Line Interface (CLI) login **admin**.
    - b. Enter the Signaling Server Command Line Interface (CLI) password.
      - If this Signaling Server has just been installed and you are logging in for the first time, enter the default password **cseadmin**.

The system immediately prompts you to change the default password.

- If this is not the first login to the Signaling Server, enter the appropriate password.

If you have forgotten the password, reset it from the Tools Menu (see *Signaling Server: Installation and Commissioning* (NN43001-312)).

---

**End of Procedure**

---

To log out of the Signaling Server, enter **exit** at the command line.

## Verifying a successful configuration

To ensure that the Signaling Server Ethernet connections (for the ELAN and TLAN subnets) are configured correctly, perform a ping test to one or more of the other devices connected to the network, particularly the Call Server.

### Procedure 42

#### Verifying the Signaling Server Ethernet connection

1 Log in to the Signaling Server, using Procedure 41 on [page 206](#).

2 Ping the IP address of the Signaling Server. Enter the command:

```
ping x.x.x.x
```

Where **x.x.x.x** is the Signaling Server ELAN network interface IP address.

3 Ping the IP address of the Call Server. Enter the command:

```
ping x.x.x.x,3
```

Where **x.x.x.x** is the Call Server ELAN network interface IP address.

4 If desired, repeat step 3 for other devices connected to the network.

---

**End of Procedure**

---

## Testing the Leader Signaling Server

Configure two IP Phones to register to the Signaling Server on its temporary node. These IP Phones must be provisioned on the Call Server. Refer to *Communication Server 1000E: Installation and Commissioning* (NN43041-310), *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310), or *Communication Server 1000M and Meridian 1: Small System Installation and Configuration* (NN43011-310) for the procedure appropriate to the system. After provisioning, the telephones can call each other.



---

# Appendix A: Upgrade checklists

---

## Contents

This section contains information on the following topics:

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Upgrade details . . . . .	210
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## 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 16**  
**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 17**  
**Upgrade details**

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

## Pre-upgrade checklists

### Software Upgrade

#### Software audit

**Table 18**  
**Software audit**

<b>Software Audit</b>		
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 19**  
**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 20**  
**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 21**  
**Typical Storage Media Changes Between machine Types (Part 1 of 2)**

Typical Storage Media Changes Between machine Types		
Source	Target	Procedure Required
Omega	IODUC	Direct cable transfer

**Table 21**  
**Typical Storage Media Changes Between machine Types (Part 2 of 2)**

Omega	MMDU	Nortel Internal
CMDU	IODUC	4M - 2M media transfer
IODUC	MMDU	Disk to new Drive both use 2M Floppy Drives
MMDU	MMDU	Disk to new Drive

## Hardware Upgrade

### Hardware audit

**Table 22**  
**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 23**  
**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 23**  
**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 inservice patches and patch handle numbers (includes all DepList patches)
TID/SLT - License Parameters - To compare with converted database
LD 21 - PRT CFN
LD 97 - PRT SUPL/XPEC
Run a Template Audit
LD 1 - Auto Run
Perform a Datadump
Backup at least two copies of the current database, retain the copies.
Print History File or System Event Log
LD 22 - Print AHST - Capture Systems Events to compare with new software if required
LD 117 - PRT SEL 500 - Same as above

## Post-conversion checks

**Table 24**  
**Post-conversion checks**

<b>Post Conversion Checks</b>
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 25**  
**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 25**  
**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 26**  
**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	112-12 7	3 1	off on on on on off off off	off on on off on off off off
4	0	8	128-14 3	4 0	off on on on off on on on	off on on off off on on on
4	1	9	144-15 9	4 1	off on on on off on on off	off on on off off on on off
5	0	1 0	160-17 5	5 0	off on on on off on off on	off on on off off on off on
5	1	1 1	176-19 1	5 1	off on on on off on off off	off on on off off on off off
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

**Table 26**  
**Switch settings (Part 2 of 2)**

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

## Software generic by machine type

**Table 27**  
**Software generic by machine type**

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

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# Appendix B: Technical Assistance service

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## Contents

This section contains information on the following topics:

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Requesting assistance . . . . .	227

## Nortel Technical Assistance Centers

To help customers obtain maximum benefit, reliability, and satisfaction from their CS 1000E systems, Nortel provides technical assistance in resolving system problems. Table 28 on [page 222](#) 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 28**  
**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 28**  
**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 29 and 30 describe the service classifications.

**Table 29**  
**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"> <li>• 10% or more lines out-of-service</li> <li>• frequent initializations (seven per day or more)</li> <li>• inability to recover from initialization or SYSLOAD</li> <li>• consistently slow dial tone (eight seconds or more delay)</li> </ul>
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 30**  
**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 31 before you call for service.

**Table 31**  
**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 29 and 30)	_____
Description of assistance required	_____
	_____
	_____



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Nortel Communication Server 1000

## **Communication Server 1000M and Meridian 1**

61C CP PII to CS 1000M MG CP PII FNF Upgrade

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