Nortel Communication Server 1000
Nortel Communication Server 1000 Release 5.0

Communication Server 1000M and Meridian 1

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

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Revision history

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.

January 2006

Standard 4.00. This document is up-issued with corrections from CR Q01231173.

August 2005

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).

Contents

Finding the latest updates on the Nortel web site

The content of this documentation was current at the time the product was released. To check for updates to the latest documentation and software for CS 1000 Release 5.0, click one of the links below.

Latest Software	Takes you directly to the Nortel page for CS 1000 Release 5.0 software.
Latest Documentation	Takes you directly to the Nortel page for CS 1000 Release 5.0 documentation.

How to get help

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

Getting help from the Nortel Web site

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

www.nortel.com/support

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

- download software, documentation, and product bulletins
- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues
- sign up for automatic notification of new software and documentation for Nortel equipment
- open and manage technical support cases

Getting help over the telephone from a Nortel Solutions Center

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

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

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

www.nortel.com/callus

Getting help from a specialist by using an Express Routing Code

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

www.nortel.com/erc

Getting help through a Nortel distributor or reseller

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

System information

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

Subject

Use this document to perform upgrades on Meridian 1 Large Systems. This document also contains information 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/

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 : "Upgrading and configuring the Signaling Server" on page 129.

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 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

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 163.

Preparing and planning for the upgrade

Contents

This section contains information on the following topics:

Introduction

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

IMPORTANT!

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

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

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

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

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

Procedure Step	Page
Planning	23
Upgrade Checklists	24
Preparing	24
Identifying the proper procedure	25
Connect a terminal	25
Printing site data	26
Performing a template audit	29
Backing up the database (data dump)	30

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

Procedure Step	Page
Contact your System Administrator to identify two unique IP addresses before the upgrade.Making the RMD bootable	31
Transferring the database from floppy disk to CF (customer database media converter tool)	34
Identifying two unique IP addresses	40

Planning

Planning for an upgrade involves the following tasks:

- Read and understand the current release Product Bulletin.
- Review the current release product bulletin related specifically to the software being upgraded.
- Conduct a site inspection to determine proper power and grounding.
- Review the site profile to determine proper foot space if adding new columns or modules.

  Note: For information on adding new network shelves, see *Communication Server 1000M and Meridian 1: Large System Installation and Commissioning* (NN43021-310).
- Ensure sufficient power for new columns/modules or applications.
- Identify all applications that are currently installed on the source platform.
- Identify and correct outstanding service problems.
- Verify the site log is updated with current trunking, call routing, application notes, and site contact information.
- Review all product bulletins and Nortel Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Nortel.
- Prepare a contingency plan for backing out of the upgrade.

DANGER OF ELECTRIC SHOCK

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

Upgrade Checklists

Upgrade checklists can be found in "Upgrade checklists" on page 151. Engineers may print this section for reference during the upgrade.

Preparing

Preparing for an upgrade involves the following tasks:

- Identify and become familiar with all procedures.
- Verify that all installed applications meet the minimum software requirements for the target platform (see *Communication Server 1000M and Meridian 1: Large System Planning and Engineering* (NN43021-220)).
- Verify proper cable lengths for the target platform.
- Determine and note current patch or Dep lists installed at the source platform.
- Determine required patch or Dep lists at the target platform for all system-patchable components (Call Server, Voice Gateway Media Cards, Signaling Servers and so on).
- Determine the required patches or DEP lists installed on all applications (CallPilot, Symposium Call Center Server, Meridian Mail, TM 3.1, and so on).
- Determine and communicate the required maintenance window, contingency plan and the impact to the customer to complete the procedure.

- Perform an inventory on required software and hardware.
- Secure the source software and key code.
- Secure the target software and key code.
- Verify the new key code using the DKA program.
- Print site data.

Identifying the proper procedure

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

Connect a terminal

Procedure 1
Connecting a terminal

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

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

2 The settings for the terminal are:

   a. 9600 baud

   b. 8 data

   c. parity none

   d. 1 stop bit

   e. full duplex

   f. XOFF

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

End of Procedure

Printing site data

Print site data to preserve a record of the system configuration (see Table 3 on page 26). Verify that all information is correct. Make corrections as necessary.

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

Table 3
Print site data (Part 1 of 4)

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>

Table 3
Print site data (Part 2 of 4)

Site data	Print command	
*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
*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>)

Table 3
Print site data (Part 3 of 4)

Site data	Print command	
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
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)

Table 3
Print site data (Part 4 of 4)

Site data	Print command	
Superloops and XPEs	LD 97	
	REQ TYPE SUPL	CHG 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)
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

Performing a template audit

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

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

CAUTION — Service Interruption

Loss of Data

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

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

```
TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW      CHECKSUM OK

TEMPLATE 0002 USER COUNT HIGH     CHECKSUM OK

TEMPLATE 0003 NO USERS FOUND


STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK       CHECKSUM OK

•

•

TEMPLATE 0120 USER COUNT OK       CHECKSUM OK

TEMPLATE AUDIT COMPLETE
```

Backing up the database (data dump)

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

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

Procedure 2
Performing a data dump

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

   LD 43 Load program

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

EDD	Begin the data dump

CAUTION

Loss of Data

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

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

****	Exit program

End of Procedure

Making the RMD bootable

CAUTION — Data Loss

The PC utility used in the following procedure (mkbootrmd.exe) does not validate whether the drive letter entered is a valid RMD CF card. You must enter the correct RMD drive letter when prompted or risk formatting the incorrect drive.

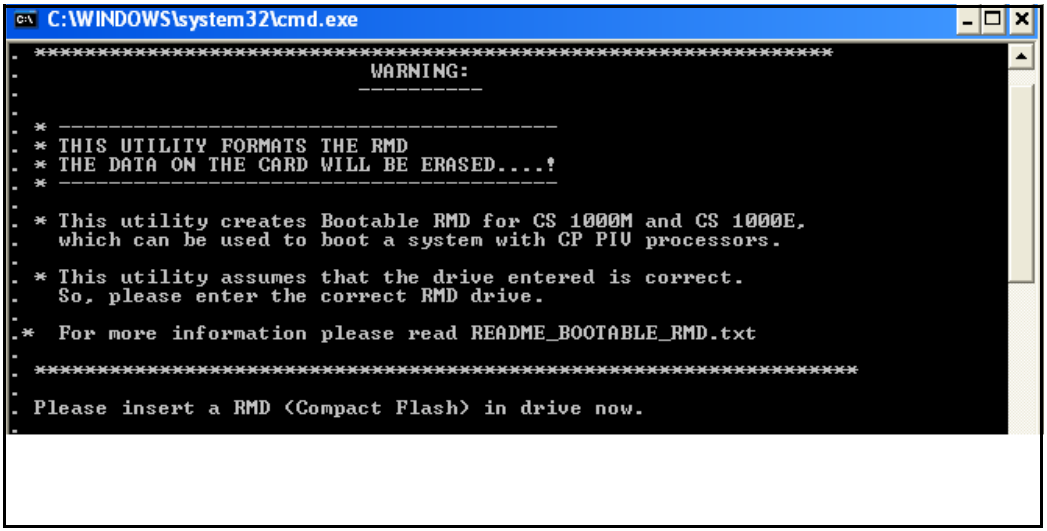
Note: This utility is supported by all versions of Microsoft Windows.

The installation RMD CF card must come pre-formatted and bootable from Nortel . Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 3 on page 32.

Procedure 3
Making the RMD bootable

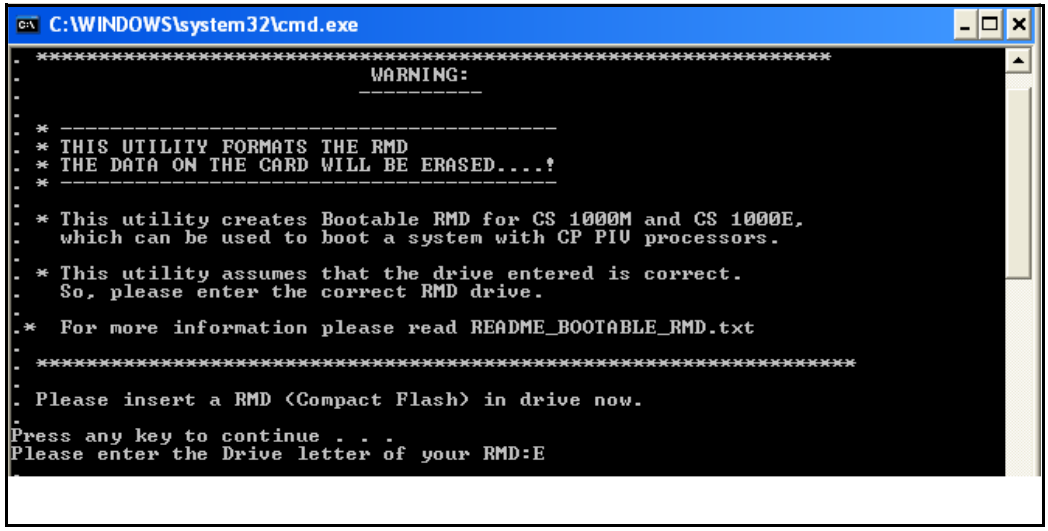
1. After downloading the software image file, unzip it to a directory on your PC.
2. Open the utilities folder.
3. Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card (see Figure 1).

Figure 1
mkbootrmd.bat



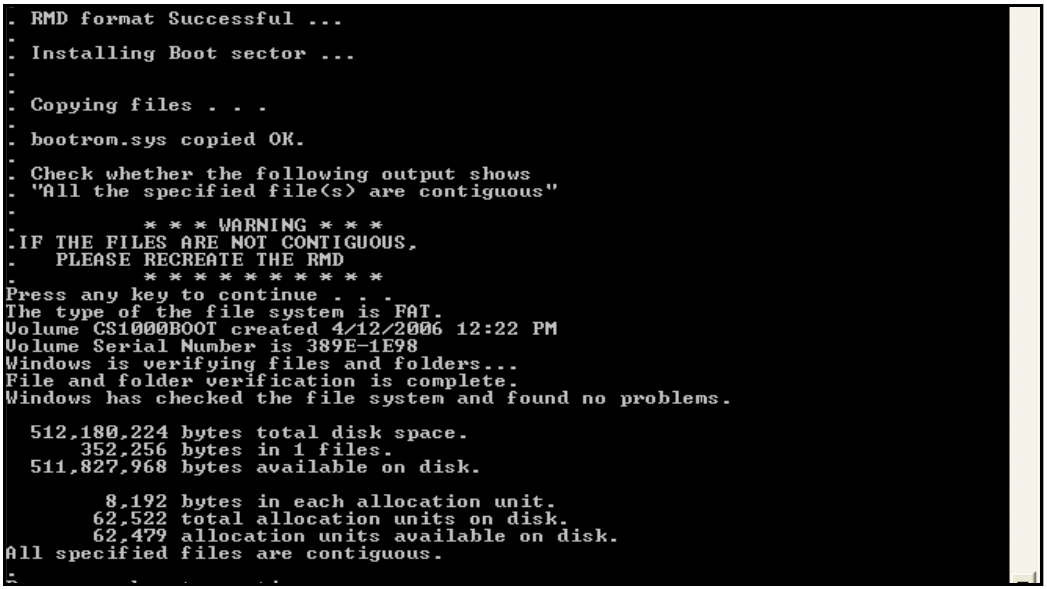
4 Enter the correct drive letter of the RMD (see Figure 2).

Figure 2
mkbootrmd.bat



5 The boot sector files (bootrom.sys and nvram.sys) are successfully copied making the CF card bootable (see Figure 3).

Figure 3
Boot sector successfully installed



End of Procedure

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

IMPORTANT!

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

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer database from a 2 MByte floppy disk to CF card, which is restored during the CS 1000

Release 5.0 software upgrade later in this section. Nortel recommends using the extra CF card included with the Software Install Kit.

Procedure 4
Transferring the customer database from floppy disk to CF

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

1. Insert the floppy disk containing the backed up customer database from Procedure 2 on page 30.
2. Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.
3. Start the Database Media Converter utility. The first screen (Figure 4 on page 36) prompts you to select the correct drive letter for the floppy disk drive.

Figure 4
Select the floppy disk drive

4 The utility then prompts you to insert the floppy disk (diskette 1) and click OK (see Figure 5 on page 37).

Figure 5
Insert diskette 1

5 After verifying the database on the floppy disk, the utility prompts you to select the CF drive (see Figure 6 on page 38).

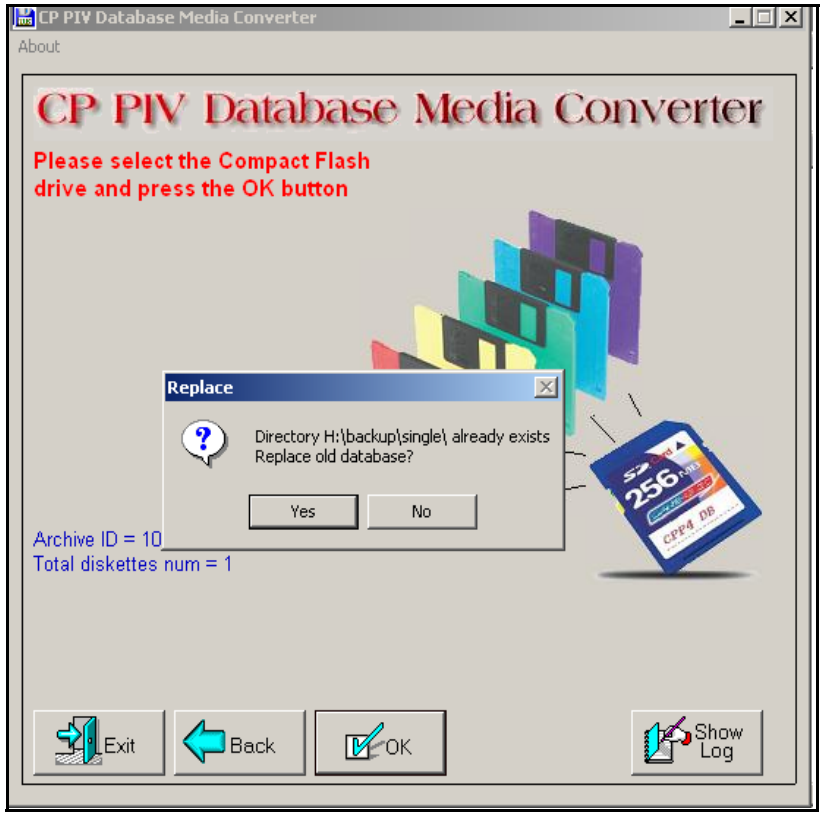
Figure 6
Select the CF drive

6 At this point, 2 options are available:

a. If the CF card already contains a previously backed-up database, a dialog box appears (see Figure 7 on page 39). Click yes to replace old database.

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

Figure 7
Replace database on CF drive



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

Figure 8
Copy another or exit

End of Procedure

Identifying two unique IP addresses

Each CP PIV system must be configured with two unique IP addresses for LAN identification and communication. One IP address is defined for the *active* Core. The second IP address is defined for the *inactive* Core. In this

configuration, the *active* Core (either Core 0 or Core 1) that handles call processing is always identified by the same IP address.

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

Performing the upgrade

Contents

This section contains information on the following topics:

Introduction

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

- PB requires NTRB53AA Clock Controller
- NT5D12AC, AD, and AG (1.54MB) support

- NT5D97AB, AD (2.0 MByte) support
- Both NTRC46 cables must be the same length

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 CS 1000M MG CP PII IGS system to a CS 1000M MG CP PIV with Fiber Network Fabric:

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

For information on upgrading and configuring the Signaling Server, see Appendix : “Upgrading and configuring the Signaling Server” on page 129

Reviewing upgrade requirements

Check software received

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

- CORENET Core Network Module Package 299
- CPP_CNI CP Pentium Backplane for Intel Machine Package 368
- FIBN Fiber Network Package 365

Compact Flash Software Install Kit contains the following items:

- One CF (512 MByte) card containing:
  - Install Software files
  - CS 1000 Release 5.0 software
  - Dep. Lists (PEPs)
  - Key code File
- One blank CF card for database backup
- One Nortel CS 1000 Release 5.0 Documentation CD

IMPORTANT!

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

Check equipment received

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

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

CAUTION

Service Interruption

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

Check vintage requirements for existing hardware

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

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

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

CAUTION

Service Interruption

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

Table 4 describes the *minimum* equipment required to upgrade a system to CP PIV. Table 5 on page 48 and Table 6 on page 48 list the DC and AC power equipment requirements. Additional equipment for increased Network capacity is ordered separately.

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

Order number	Description	Quantity per system
NT4N39	CP PIV Call Processor Card (512 MByte memory)	2
N0026096	MMDU replacement faceplate	2
NTRB33	Fiber Junctor Interface (FIJI) Card	Determined by system configuration
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
NTRE40AA	Dual Ethernet Adapter (RJ-45) for I/O Panel	2

Check required power equipment

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

Table 5
DC power requirements for Meridian 1 Option 81C CP PIV with FNF upgrades

Order number	Description	Quantity per system
NT6D41CA	Core/Network Power Supply DC	2
NTHU50DA	CP PIV Upgrade Kit DC (Misc. Card Cage Components)	2

Table 6
AC power requirements for Meridian 1 Option 81C CP PIV with FNF upgrades

Order number	Description	Quantity per system
NT8D29BA	Core/Network Power Supply AC	2
NTHU50AA	CP PIV Upgrade Kit AC (Misc. Card Cage Components)	2

Check required tools

Table 7 lists the tools required to upgrade a Nortel system. Special tools required in a procedure are listed with that procedure.

Table 7
List of recommended tools (Part 1 of 2)

- Digital Multimeter (DMM)
- Pliers, needle-nose
- Pliers, standard
- Screwdriver, 3/16” flat blade
- Screwdriver, #2 Phillips
- Wire cutters

Table 7
List of recommended tools (Part 2 of 2)

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

Verifying CP PIV hardware

Figure 9 on page 50 shows the CP PIV processor card side view. Figure 10 on page 51 shows the CP PIV processor card front view.

Figure 9
CP PIV call processor card (side)

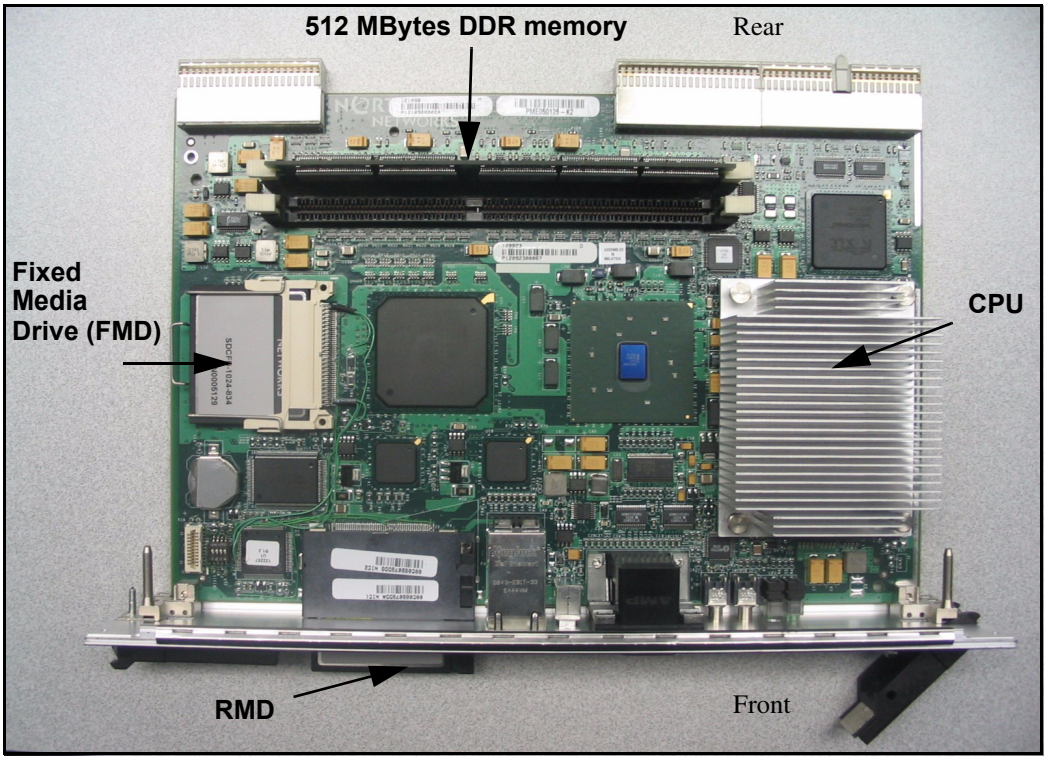


Figure 10
CP PIV call processor card (front)

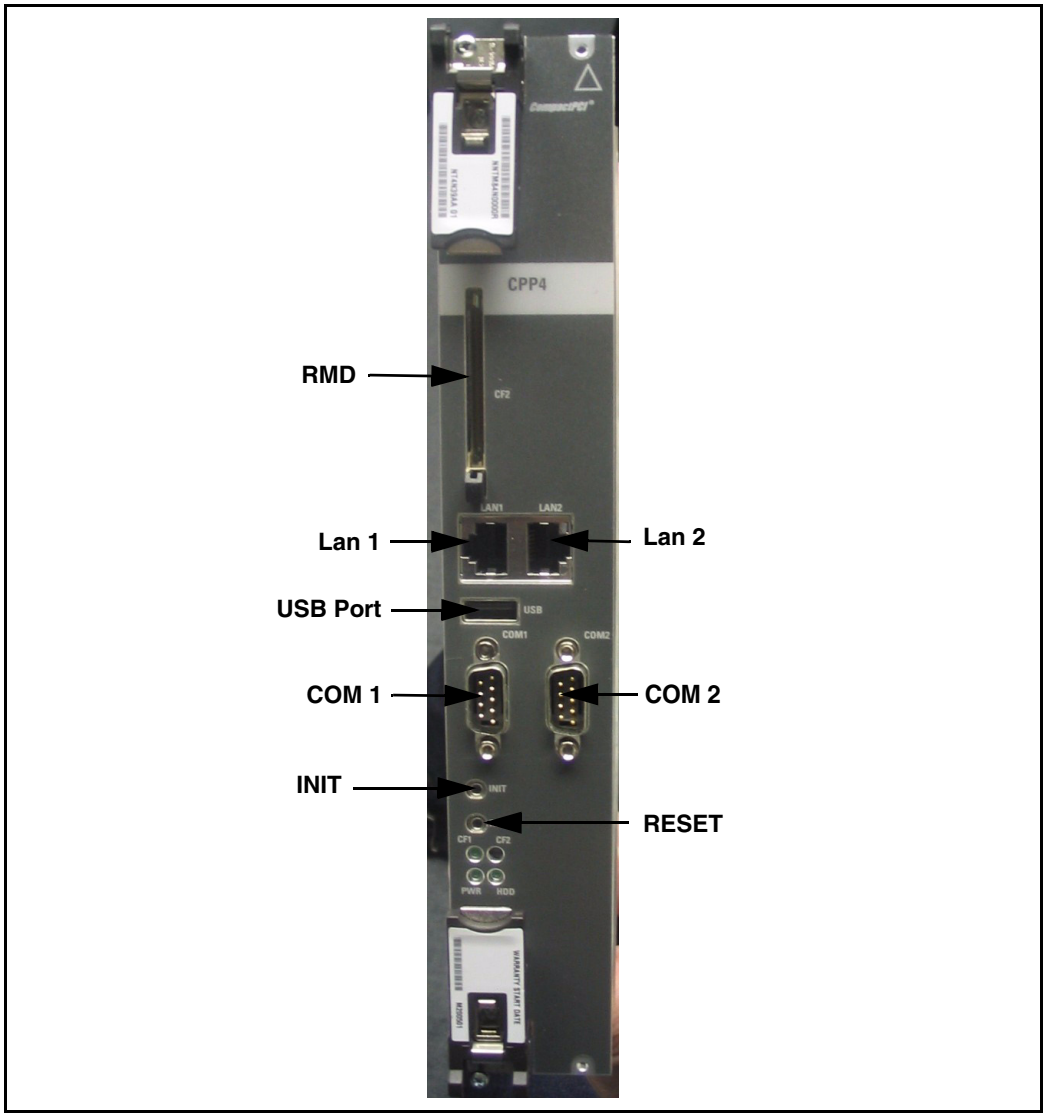
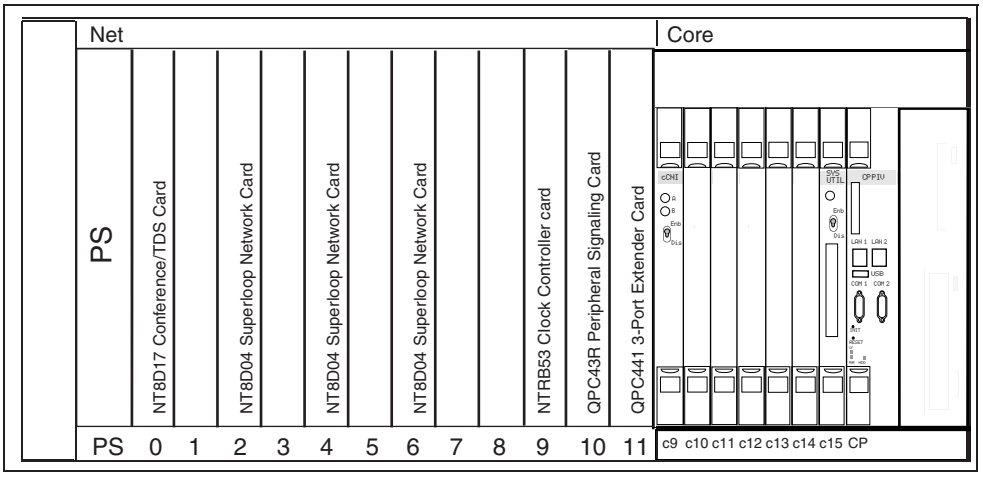


Figure 11
CP PIV NT4N41 Core/Net Module

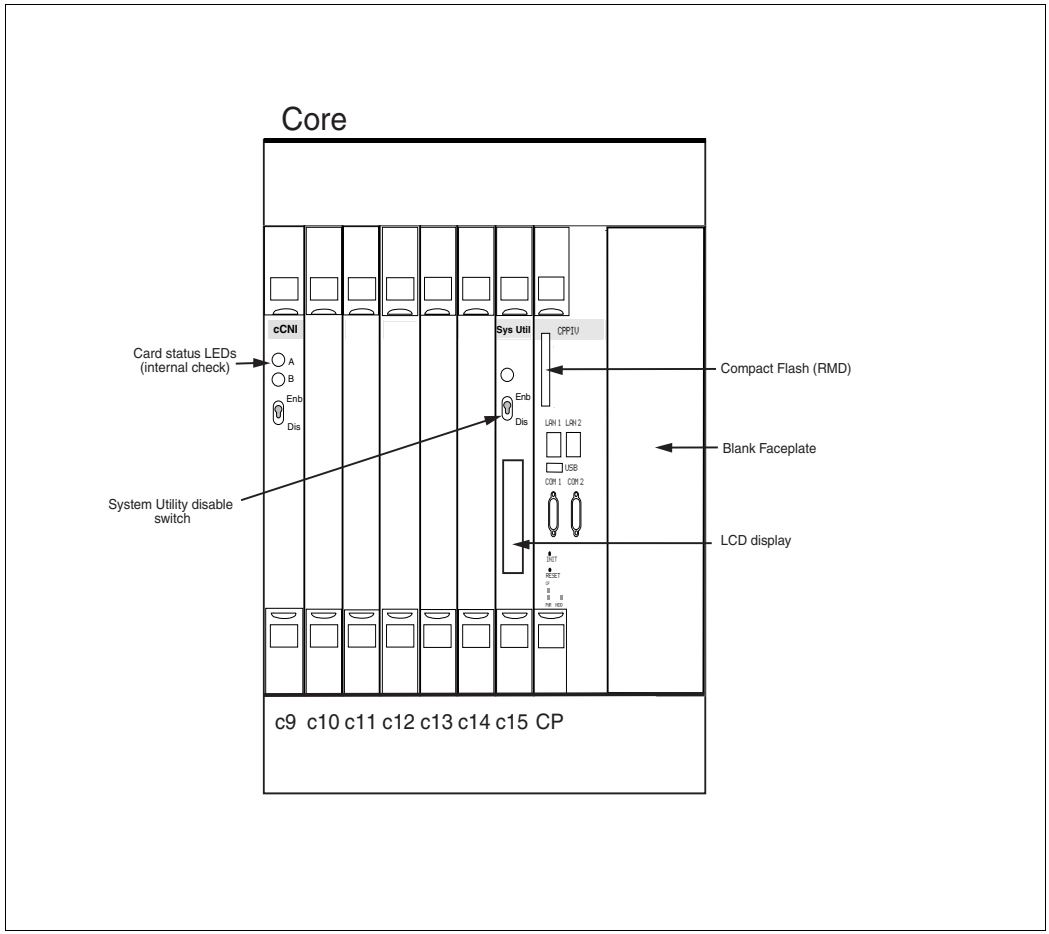


Verifying CP PIV card location

The NT4N39 CP PIV card is located in the Call Processor slot (see Figure 12 on page 53).

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

Figure 12
CP PIV Card location



Upgrading Core 1

Procedure 5
Checking that Core 0 is active

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

1 Verify that Core 0 is active.

LD 135	Load program
STAT CPU	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 6
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

Disable IGS

Procedure 7
Disable IGS

1 Disable the IGS/DIGS cards located in each network group shelf 1:

LD 39	Load program
DIS IGS X	X = IGS cards located in each network group shelf 1
********	Exit program

Note: To determine the number of the IGS/DIGS card, refer to Table 8.

Table 8
Shelf 1 IGS/DIGS card locations

Network Group 0	Shelf 1	IGS/DIGS 1 & 3
Network Group 1	Shelf 1	IGS/DIGS 5& 7
Network Group 2	Shelf 1	IGS/DIGS 9 & 11
Network Group 3	Shelf 1	IGS/DIGS 13 & 15
Network Group 4	Shelf 1	IGS/DIGS 17 & 19

Note: The DIGS card is located in slot 2 of the network shelf and slot 9 of the Core/Net shelf.

End of Procedure

Procedure 8
Splitting the Cores

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

LD 135	Load program
SPLIT	Split the Cores
****	Exit program

2 Hardware disable all CNI cards in Core 1.

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

End of Procedure

Procedure 9
Verifying settings for a QPC441 3PE Card

1 When you move the 3PE card, check the switch settings and jumpers. See Table 9 on page 57.

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 9 shows the 3PE settings for cards installed in CP Core/Net Modules.

Table 9
QPC441 3PE Card installed in the NT4N40 Module

Jumper Settings: Set Jumper RN27 at E35 to “A”.									
Switch Settings									
Module		D20 switch position							
NT4N40 (Option 81C CP PIV)		**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

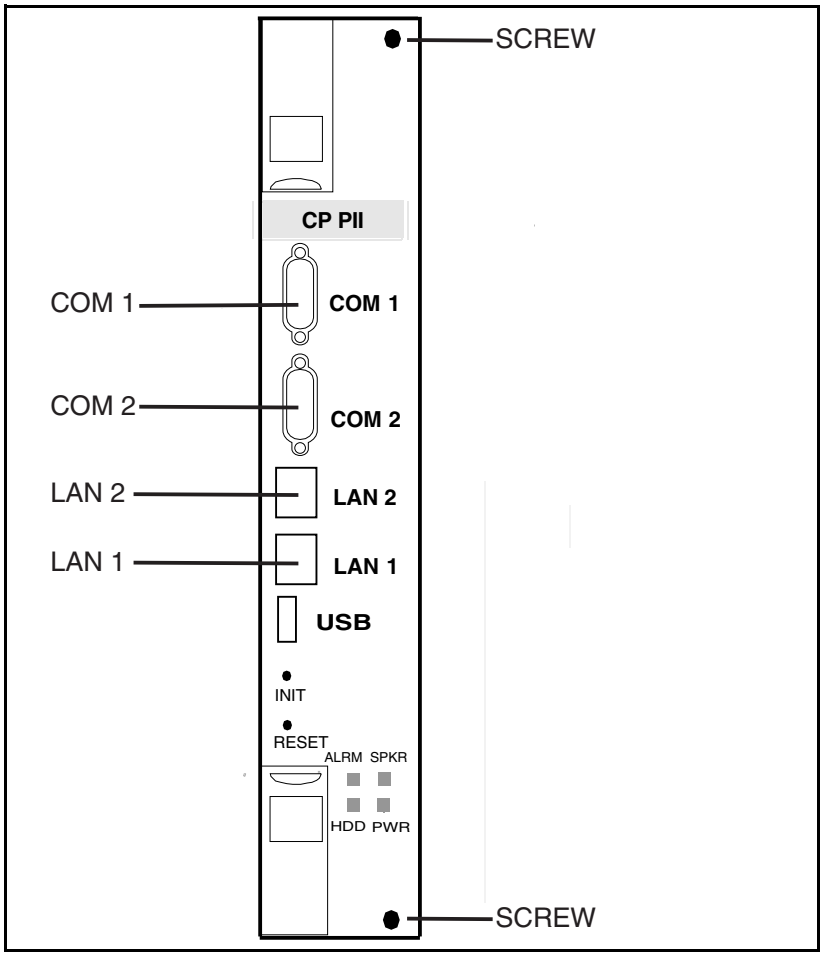
End of Procedure

Removing Core 1 CP PII card and MMDU

Procedure 10
Removing the Core 1 CP PII processor and MMDU

1 Disconnect and label the LAN1 and LAN 2 cables from the Core 1 CP PII card faceplate. See Figure 13.

Figure 13
CP PII faceplate connections



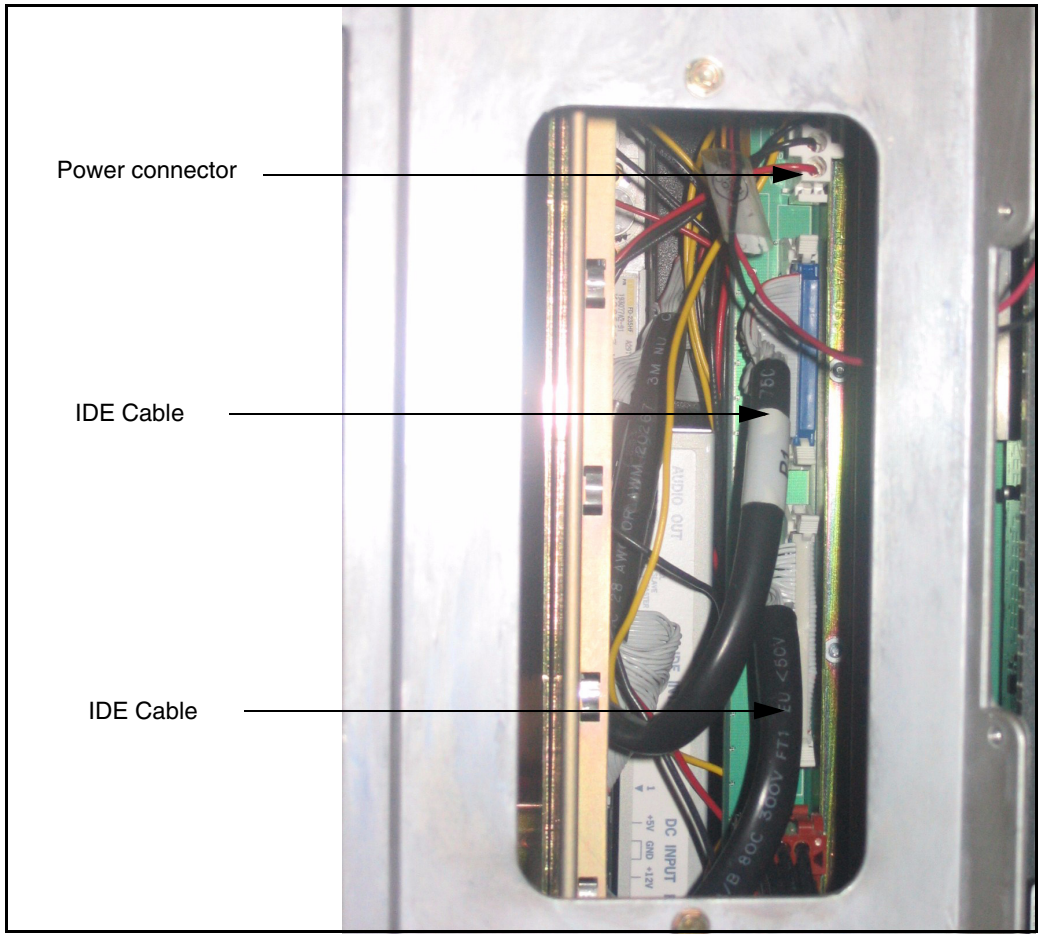
2 Disconnect and label the COM 1 and COM 2 cables from the Core 1 CP PII card faceplate. See Figure 13 on page 58.

3 Unscrew and unlatch the Core 1 CP PII card. See Figure 13 on page 58.

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

5 Remove the rear access plate on the left side of the Core 1 module. See Figure 14 on page 59.

Figure 14
NT4N46 Core/Net module



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

7 From the rear access point of the Core 1 shelf (, remove the two IDE cables from the backplane. See Figure 14 on page 59.

8 Unscrew the MMDU from the front of Core 1.

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

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

IMPORTANT!

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

End of Procedure

Installing Core 1 CP PIV card and blank faceplate

Procedure 11
Installing the Core 1 CP PIV processor and blank faceplate

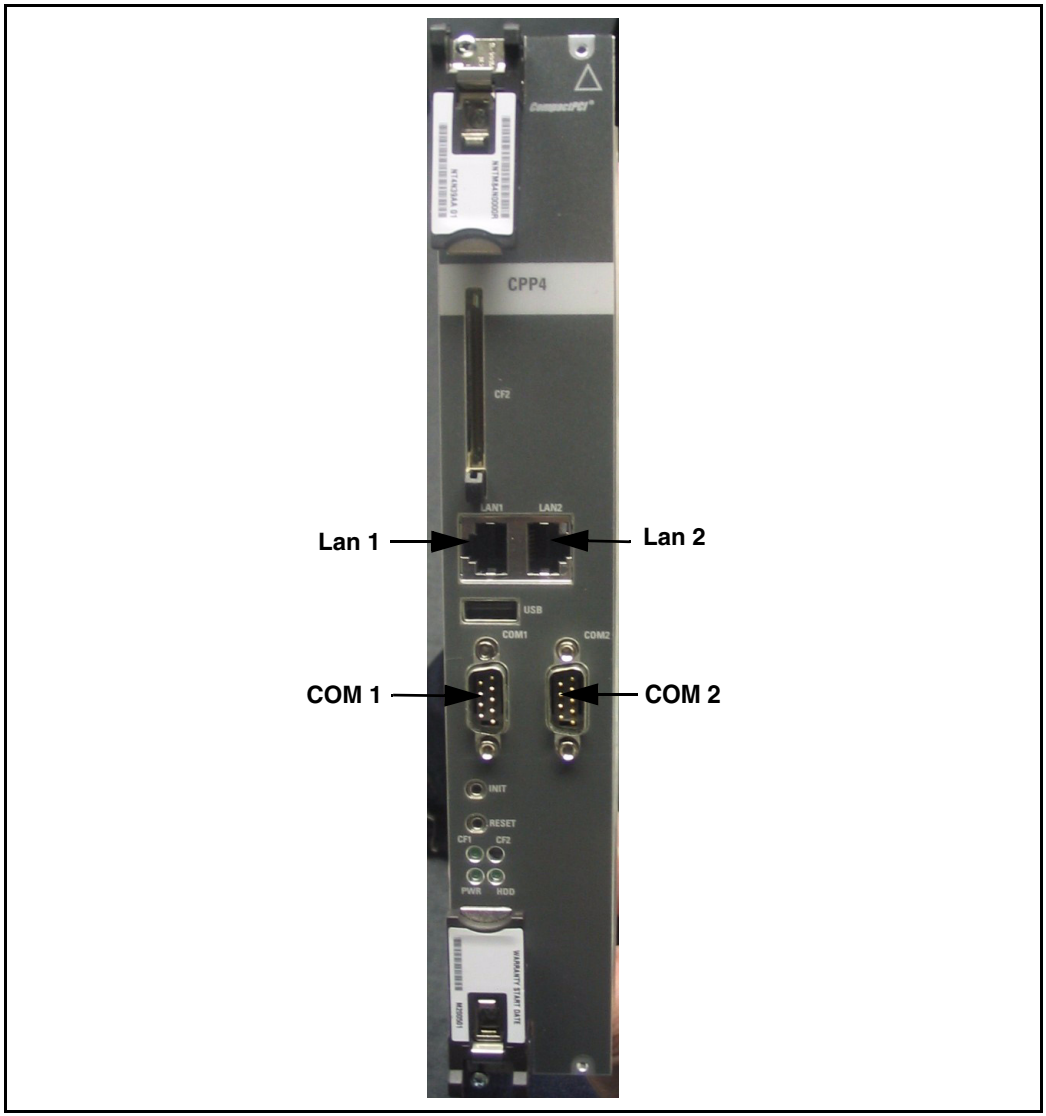
1 Attach the blank faceplate to the empty MMDU slot using the supplied screws.

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

3 Attach the COM 1 and COM 2 cables to the CP PIV card faceplate. See Figure 15 on page 61.

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

Figure 15
CP PIV faceplate connections



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

End of Procedure

Adding Side 1 FIJI hardware

Procedure 12
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 13
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.

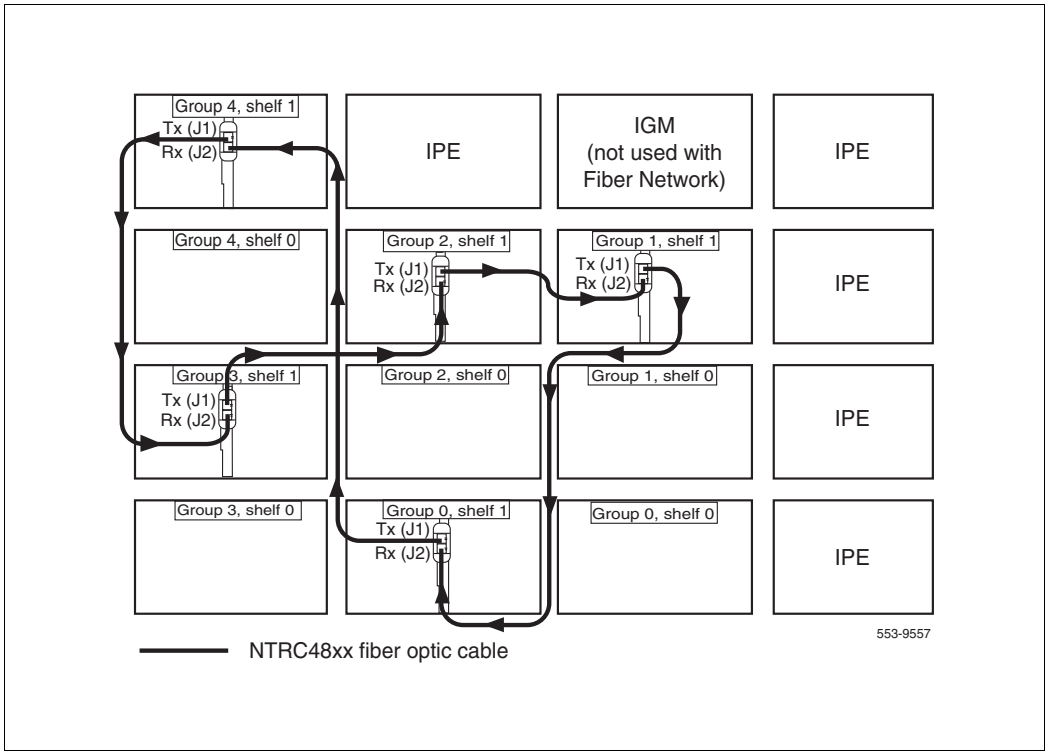
Create Fiber Ring 1. Connect the FIJI cards in all Network shelves 1 in **descending** order, from Tx to Rx (see Figure 16 on page 64 and Table 10 on page 65).

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.

Figure 16
Shelf 1 *descending* fiber optic Ring (Meridian 1 Option 81C 5 group example)



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

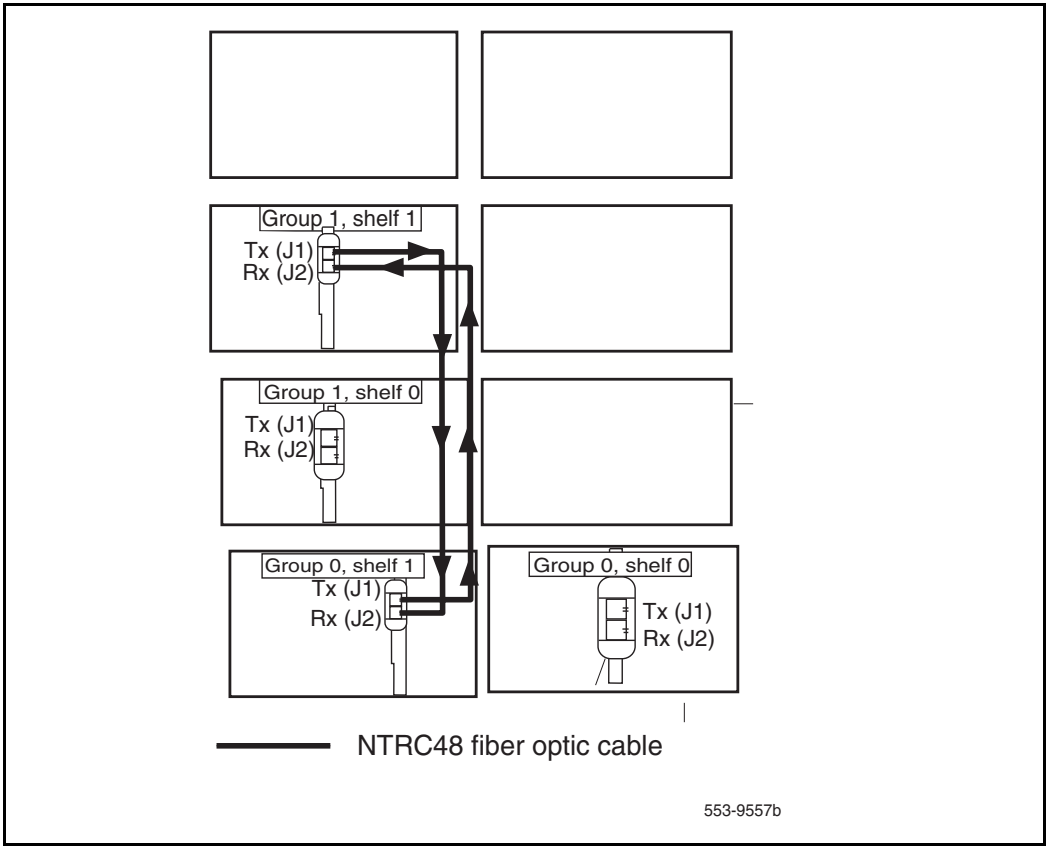
Note: Connect the Side 1 FIJI Ring cables only.

Table 10
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 17
Shelf 1 des*cending* fiber optic Ring (Meridian 1 Option 81C 2 group example)



Cable the Clock Controller 1 to FIJI

Procedure 14
Cable the Clock Controller 1 to FIJI hardware

Connect the cables to the Clock Controller 1 as shown in Figure 18 on page 67.

1 Connect J2 of the NTRC49 cable to J1 of the NTRC46 cable.

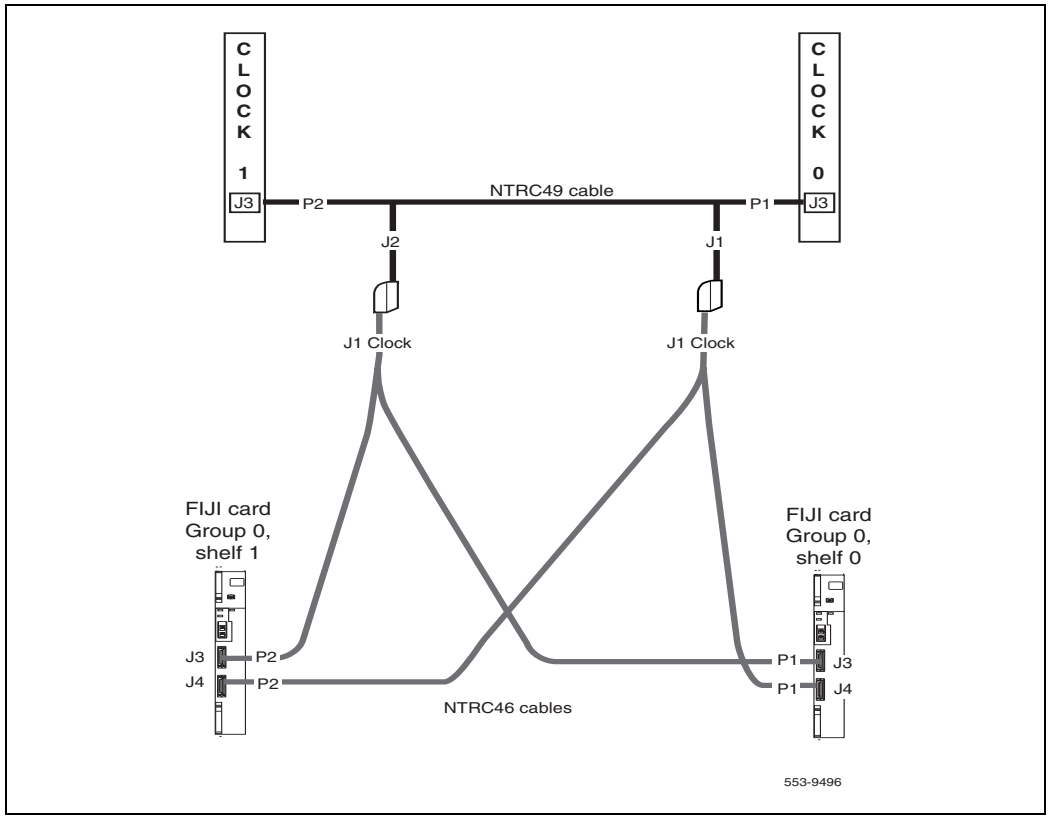
2 Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.

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 same length.

Figure 18
Clock Controller cable configuration



CS 1000 Release 5.0 upgrade

Upgrading the software

Procedure 15 outlines the steps involved in installing CS 1000 Release 5.0 for the CP PIV processor.

Procedure 15
Upgrading the software

1. Check that a terminal is now connected to COM 1.
2. Insert the RMD into the CF card slot.

3 Press the manual RESET button on the CP PIV card faceplate.

4 Enter <CR> at the Install Tool Menu.

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

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

        Please press <CR> when ready ...

/d/ - Volume is OK

****
```

5 The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

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

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

                                M A I N    M E N U

        The Software Installation Tool will install or upgrade
        Communication Server 1000 Software, Database and the CP-BOOTROM.

        You will be prompted throughout the installation and given the
        opportunity to quit at any time.

        Please enter:
<CR> -> <u> - To Install Menu.
        <t> - To Tools Menu.
        <q> - Quit.

        Enter choice> u

 The following keycode files are available on the removable media:

                  Name                      Size       Date         Time
                ----------------------      ------    -----------  -------
 <CR> -> <1> - 491L_PIV.KCD                  1114    Dec-04-2006   16:07
         <q> - Quit

         Enter choice> 1
```

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

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

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

No keycode files are available on the removable
media.

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

Please enter:

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

          <q> - Quit.

          Enter choice>
```

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

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

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

You selected to quit. Please confirm.

Please enter:

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

        <n> - No, DON’T quit.

        Enter choice>
```

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

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

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

Name                        Size   Date      Time

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

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

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

<q> - Quit

Enter choice> 2
```

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

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

```
Validating keycode ...

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

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CPP4 processor on xxxx).
```

Note: The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

8 The system requests keycode validation.

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

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

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

Please enter:

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

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

Enter choice>
```

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

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

                          I N S T A L L    M E N U

        The Software Installation Tool will install or upgrade
        Communication Server 1000 Software, Database and the CP-BOOTROM.

        You will be prompted throughout the installation and given the
        opportunity to quit at any time.

        Please enter:
<CR> -> <a> - To install Software, CP-BOOTROM.
        <b> - To install Software, Database, CP-BOOTROM.
        <c> - To install Database only.
        <d> - To install CP-BOOTROM only.
        <t> - To go to the Tools Menu.
        <k> - To install Keycode only.
               For Feature Expansion, use OVL143.
        <p> - To install 3900 Set Languages.
        <q> - Quit.

        Enter choice>

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

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

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

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

Please enter:

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

         <q> - Quit.

Enter choice> <CR>
```

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

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

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

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

The RMD contains System S/W version xxxx.

Please enter:

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

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

Enter choice> <CR>
```

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

13 The Dependency List menus appear.

```
 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> y

>Processing the install control file ...

>Installing release xxxx
```

14 The Installation Status Summary appears.

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

        +=================+========+========+============================+
        |     Option      | Choice | Status |           Comment          |
        +=================+========+========+============================+
        | SW: RMD to FMD  |  yes   |        | install for rel xxxxx      |
        +-----------------+--------+--------+----------------------------+
        | Dependency Lists|  yes   |        |                            |
        +-----------------+--------+--------+----------------------------+
          IPMG Software:  |  yes   |        | install for rel xxxxx      |
        +-----------------+--------+--------+----------------------------+
        | Database        |  yes   |        |                            |
        +-----------------+--------+--------+----------------------------+
        | CP-BOOTROM      |  yes   |        |                            |
        +-----------------+--------+--------+----------------------------+

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

        Enter choice>
>Checking system configuration
```

15 Enter <CR> to confirm and continue installation.

Note: After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

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

        Enter choice>
>Checking system configuration

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

        You selected to upgrade the system from release: 450W
        to release: 0491L.

        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>
```

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

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

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

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.


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

17 The customer database installation from RMD is employed when upgrading CP PIV systems. Select option “<a> - Install CUSTOMER database.” from the database installation main menu.

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

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

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>
```

The system verifies which customer databases are available on the RMD under directory ‘backup’ and displays them.

```
The following databases are available on the
removable media:

          <CR> -> <s> - Single database
           created: mon-day-year hour:min

          <q>-Quit

Enter choice> s or <CR>
```

18 Continue with database installation.

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

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

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

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

Please enter:

          <CR> -> <a> - Continue with database
install.

          <q> - Quit.

Enter choice> a or <CR>
```

The installation summary screen appears. Verify successful installation and enter <CR> when ready.

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

+==================+========+========+============================+
|     Option       | Choice | Status |           Comment          |
+==================+========+========+============================+
| SW: RMD to FMD   |   yes  |   OK   |  install for rel 04xxx     |
+------------------+--------+--------+----------------------------+
| Dependency Lists|   yes  |   OK   |                            |
+------------------+--------+--------+----------------------------+
| AUTO-CSU Feature|   no   |        |  AUTO-CSU Disabled         |
+------------------+--------+--------+--------------------+-------+
| IPMG Software:   |   no   |        |                            |
+------------------+--------+--------+----------------------------+
| Database         |   yes  |   OK   | conversion from xxxx       |
+------------------+--------+--------+----------------------------+
| CP-BOOTROM       |   yes  |   OK   |                            |
+------------------+--------+--------+----------------------------+

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

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

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

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

        Please enter:

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

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

                For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> q
```

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

```
You selected to quit. Please confirm.

    Please enter:

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

        <n> - No, DON'T quit.


        Enter choice> <CR>

You selected to quit the Install Tool.

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




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

        DO NOT REBOOT USING BUTTON!!!


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


        Please enter:

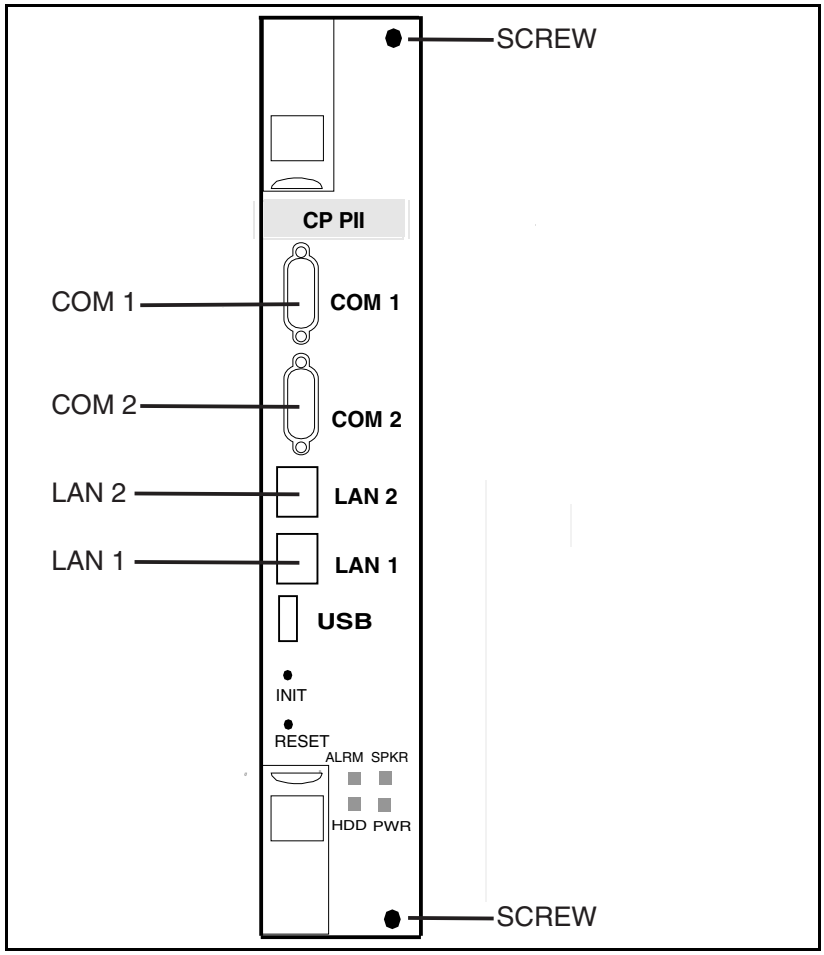
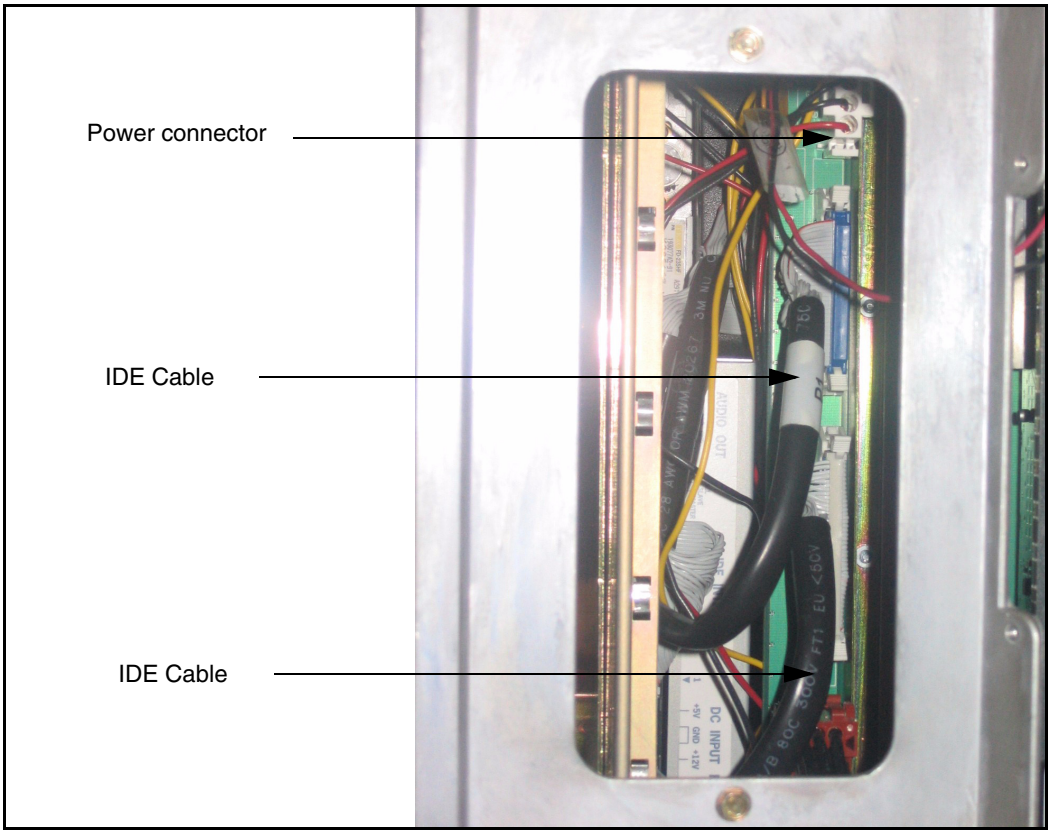
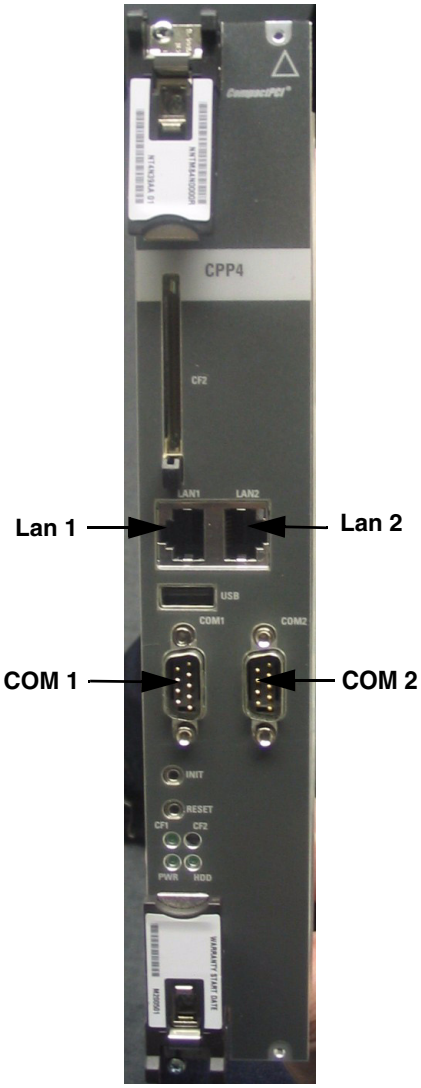
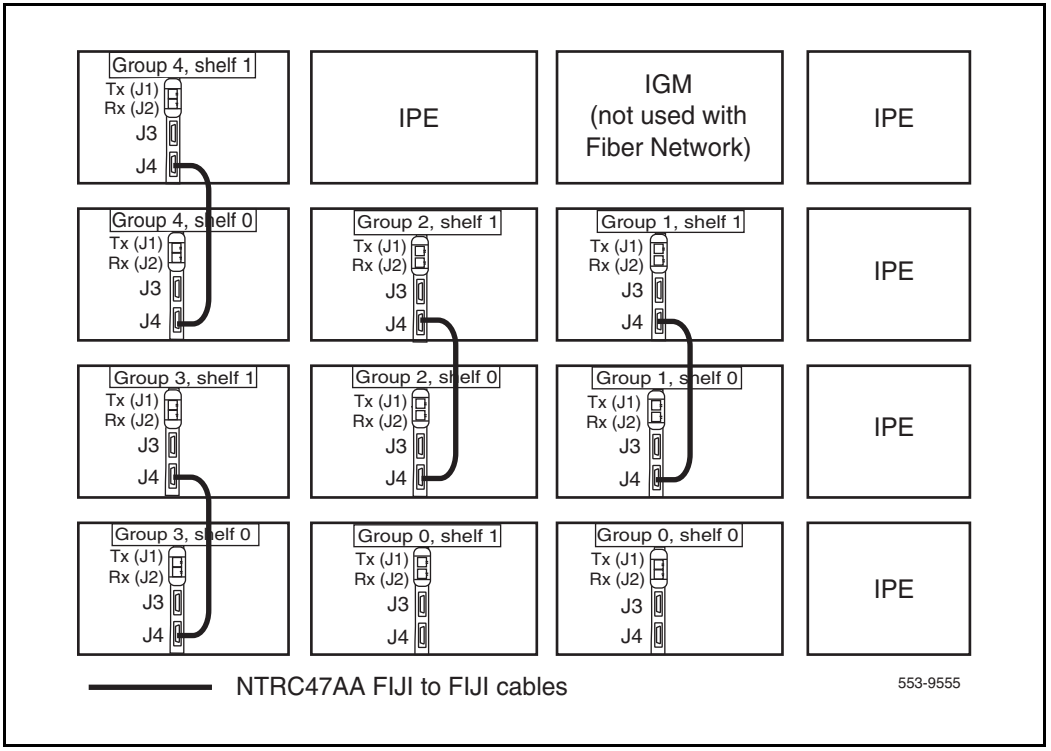
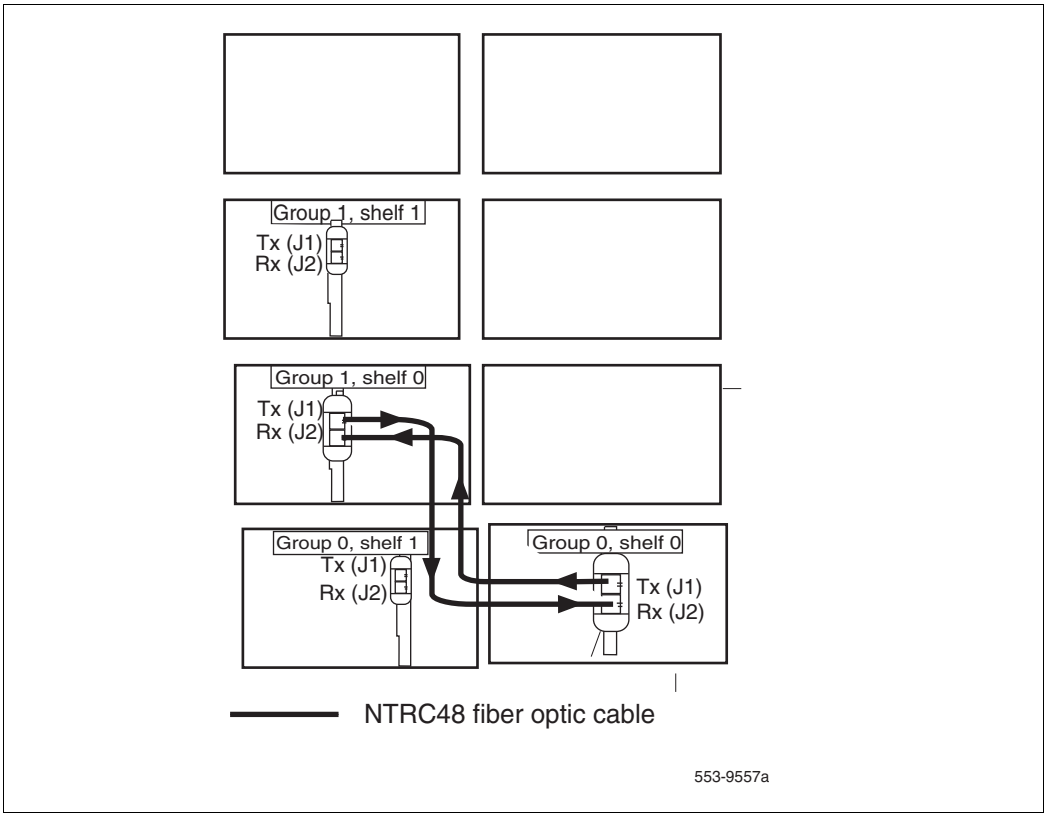
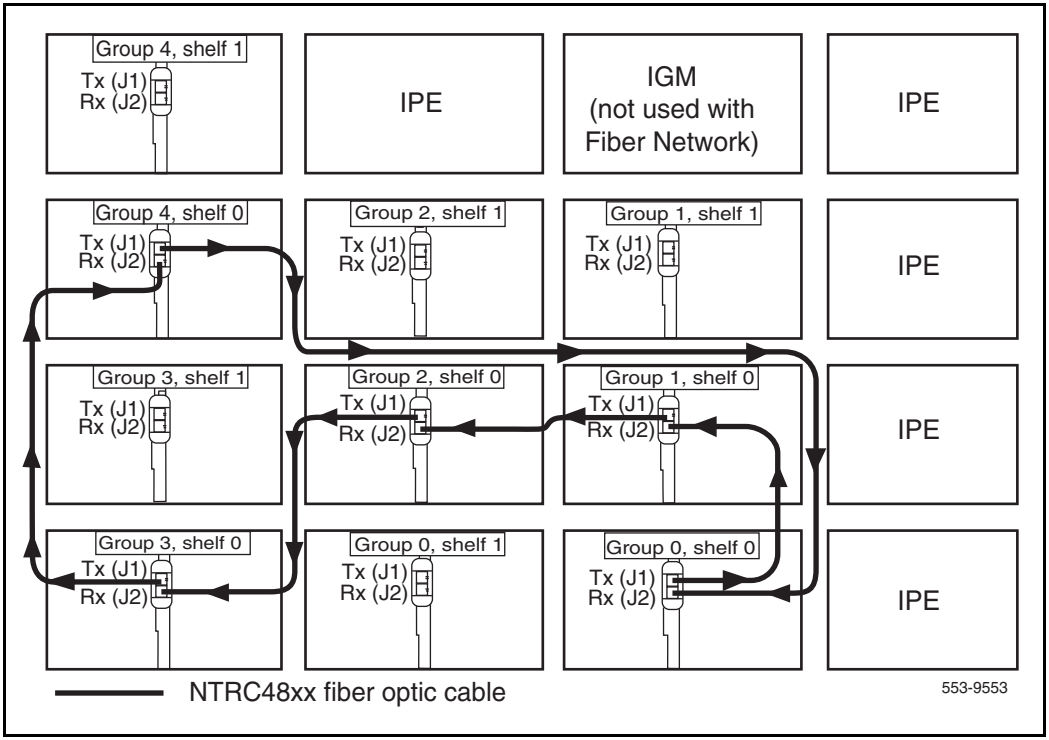
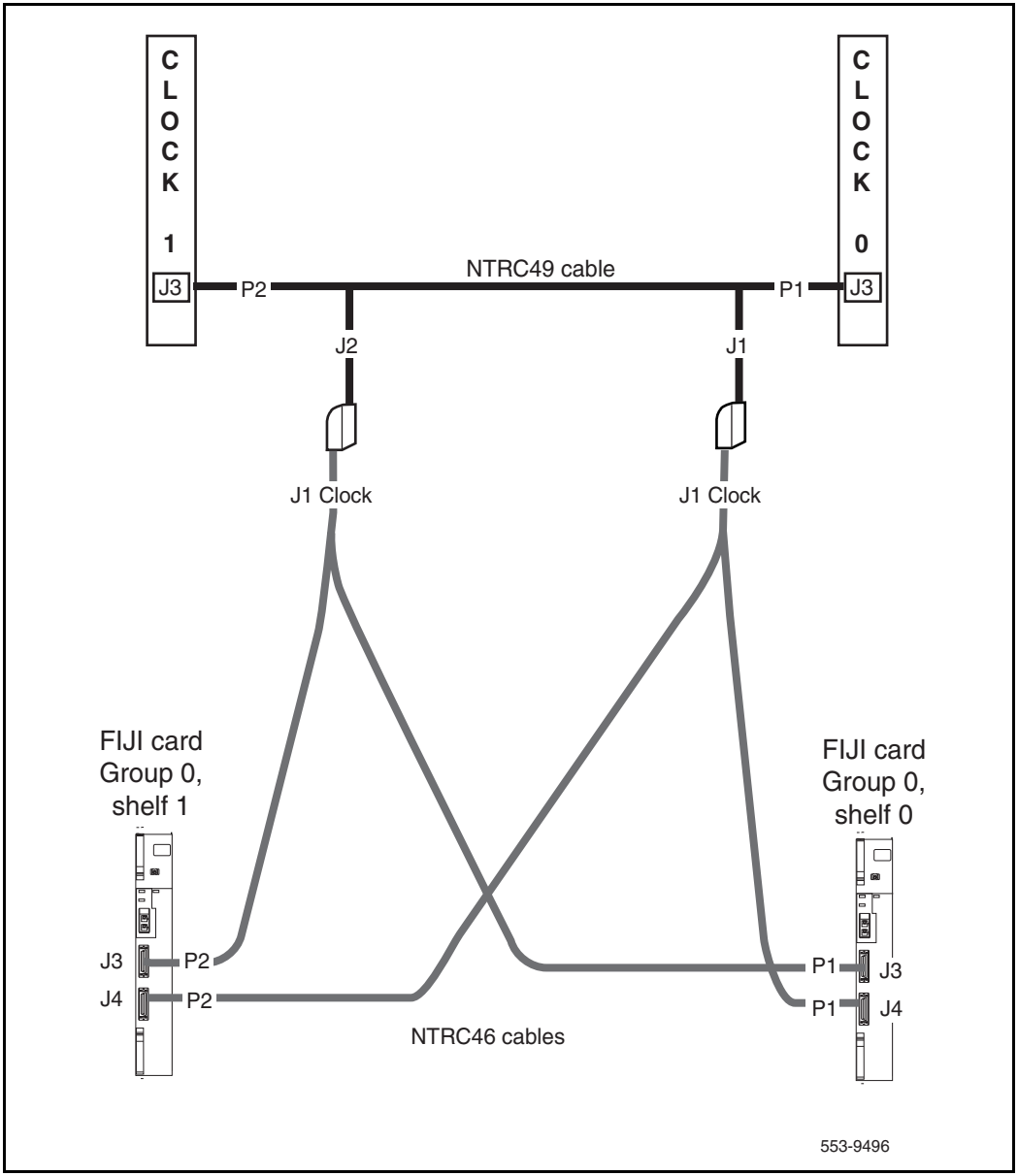
<CR> -> <a> - Reboot the system.

        <m> - Return to the Main menu.

        Enter Choice> <CR>

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

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

>Rebooting system ...
```

At this point the system reloads and initializes.

End of Procedure

Verifying the upgraded database

Procedure 16
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.

LD 21	Load program
REQ	PRT
TYPE	CDB
CUST	xx
********	Exit program

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

End of Procedure

Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in "Printing site data" on page 26. If there is a difference between the Source and Target peripheral software version:

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

Load LD 22 and print Target peripheral software version.

LD 22	
REQ	PRT

TYPE	PSWV
********	Exit program

Reconfigure I/O ports and call registers

Procedure 17
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 18
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 Press the 'INIT' button on the CP PIV card faceplate of Core 1 to initialize the system.

7 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 19
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

Procedure 20
Faceplate disabling cards in core and network slots of Core/Net 0:

1 Remove cables from IGS/DIGS cards in each network shelf 0.

2 Remove IGS/DIGS cards in each network shelf 0 from the system.

End of Procedure

Table 11
Shelf 0 IGS/DIGS card locations

Network Group 0	Shelf 0	IGS/DIGS 0 & 2
Network Group 1	Shelf 0	IGS/DIGS 4 & 6
Network Group 2	Shelf 0	IGS/DIGS 8 & 10
Network Group 3	Shelf 0	IGS/DIGS 12 & 14
Network Group 4	Shelf 0	IGS/DIGS 18 & 20
Note: The DIGS card should be located in slot 9 of the network shelf.		

Removing Core 0 CP PII card and MMDU

Procedure 21
Removing the Core 0 CP PII processor and MMDU

1 Disconnect and label the LAN1 and LAN 2 cables from the Core 0 CP PII card faceplate. See Figure 19 on page 89.

2 Disconnect and label the COM 1 and COM 2 cables from the Core 0 CP PII card faceplate. See Figure 19 on page 89.

3 Unscrew and unlatch the Core 0 CP PII card. See Figure 19 on page 89.

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

5 Remove the rear access plate on the left side of the Core 0 module. See Figure 20.

Figure 19
CP PII faceplate connections



Figure 20
NT4N46 Core/Net module



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

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

8 Unscrew the MMDU from the front of Core 0. See Figure 20 on page 90.

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

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

IMPORTANT!

Database backup information and MMDU should be preserved for a minimum of 5 days.

End of Procedure

Installing Core 0 CP PIV card and blank faceplate

Procedure 22
Installing the Core 0 CP PIV processor and blank faceplate

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

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

3 Attach the COM 1 and COM 2 cables to the CP PIV card faceplate. See Figure 21 on page 92.

Figure 21
CP PIV faceplate connections



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

End of Procedure

Add Side 0 FIJI hardware

Procedure 23
Install Side 0 FIJI cards

1 Unpack the FIJI cards (NTRB33).

2 Faceplate-disable the NTRB33 cards.

3 Insert and seat the FIJI cards in all Side 0 shelves.

End of Procedure

Procedure 24
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 25
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 22 on page 96 and Figure 23 on page 98).

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 22
Shelf 0 as*cending* 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 23
Shelf 0 *ascending* fiber optic Ring (Meridian 1 Option 81C 5 group example)



Procedure 26
Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 24 on page 100:

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

Power up Core 0

Procedure 27
Preparing for power up

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

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

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

3 Check the terminal settings as follows:

a. 9600 Baud

b. 8 data

c. parity none

d. 1 stop bit

e. full duplex

f. XOFF

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

End of Procedure

Figure 24
Clock Controller cable configuration



CS 1000 Release 5.0 upgrade

Upgrading the software

Procedure 28 outlines the steps involved in installing CS 1000 Release 5.0 for the CP PIV processor.

Procedure 28
Upgrading the software

1. Check that a terminal is now connected to COM 1.
2. Insert the RMD into the CF card slot.

3 Press the manual RESET button on the CP PIV card faceplate.

4 Enter <CR> at the Install Tool Menu.

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

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

        Please press <CR> when ready ...

/d/ - Volume is OK

****
```

**5** The system attempts to validate and format the FMD partitions. The following format will occur only if the on-board 1 GByte FMD is blank.

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

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

                                M A I N    M E N U

        The Software Installation Tool will install or upgrade
        Communication Server 1000 Software, Database and the CP-BOOTROM.

        You will be prompted throughout the installation and given the
        opportunity to quit at any time.

        Please enter:
<CR> -> <u> - To Install Menu.
        <t> - To Tools Menu.
        <q> - Quit.

        Enter choice> u

 The following keycode files are available on the removable media:

                  Name                    Size       Date         Time
                ----------------------    ------    -----------  -------
 <CR> -> <1> - 491L_PIV.KCD                1114    Dec-04-2006   16:07
         <q> - Quit

         Enter choice> 1
```

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

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

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

No keycode files are available on the removable
media.

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

Please enter:

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

          <q> - Quit.

          Enter choice>
```

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

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

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

You selected to quit. Please confirm.

Please enter:

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

        <n> - No, DON’T quit.

        Enter choice>
```

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

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

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

Name                        Size   Date      Time

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

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

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

<q> - Quit

Enter choice> 2
```

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

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

```
Validating keycode ...

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

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CPP4 processor on xxxx).
```

Note: The software release displayed depends on the keycode file content. The machine type displayed can be one of the following, according to the keycode content.

- 3521 (CP PIV processor on CS 1000M SG) for Meridian 1 Option 61C CP PIV
- 3621 (CP PIV processor on CS 1000M MG) for CS 1000E and Meridian 1 Option 81C CP PIV systems

8 The system requests keycode validation.

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

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

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

Please enter:

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

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

Enter choice>
```

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

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

                          I N S T A L L    M E N U

        The Software Installation Tool will install or upgrade
        Communication Server 1000 Software, Database and the CP-BOOTROM.

        You will be prompted throughout the installation and given the
        opportunity to quit at any time.

        Please enter:
<CR> -> <a> - To install Software, CP-BOOTROM.
        <b> - To install Software, Database, CP-BOOTROM.
        <c> - To install Database only.
        <d> - To install CP-BOOTROM only.
        <t> - To go to the Tools Menu.
        <k> - To install Keycode only.
              For Feature Expansion, use OVL143.
        <p> - To install 3900 Set Languages.
        <q> - Quit.

        Enter choice>

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

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

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

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

Please enter:

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

         <q> - Quit.

Enter choice> <CR>
```

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

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

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

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

The RMD contains System S/W version xxxx.

Please enter:

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

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

Enter choice> <CR>
```

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

13 The Dependency List menus appear.

```
 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> y

>Processing the install control file ...

>Installing release xxxx
```

14 The Installation Status Summary appears.

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

        +=================+========+========+============================+
        |     Option      | Choice | Status |           Comment          |
        +=================+========+========+============================+
        | SW: RMD to FMD  |  yes   |        | install for rel xxxxx      |
        +-----------------+--------+--------+----------------------------+
        | Dependency Lists|  yes   |        |                            |
        +-----------------+--------+--------+----------------------------+
          IPMG Software:  |  yes   |        | install for rel xxxxx      |
        +-----------------+--------+--------+----------------------------+
        | Database        |  yes   |        |                            |
        +-----------------+--------+--------+----------------------------+
        | CP-BOOTROM      |  yes   |        |                            |
        +-----------------+--------+--------+----------------------------+

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

        Enter choice>
>Checking system configuration
```

15 Enter <CR> to confirm and continue installation.

Note: After entering yes below, the system copies the software from RMD to FMD (the files copied are listed).

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

        Enter choice>
>Checking system configuration

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

        You selected to upgrade the system from release: 450W
        to release: 0491L.

        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>
```

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

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

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

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.


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

17 The customer database installation from RMD is employed when upgrading CP PIV systems. Select option "<a> - Install CUSTOMER database." from the database installation main menu.

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

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

You will now perform the database installation.

Please enter:

        <CR> -> <a> - Install CUSTOMER database.

(The Removable Media Device containing the
customer database must be in the drive.

        <b> - Install DEFAULT database.

(The System S/W media must be in drive.)

        <c> - Transfer the previous system
database.(The floppy disk containing the customer
database must be in the floppy drive of the MMDU
pack.

        <e> - Check the database that exists on
the Fixed Media Device.

        <q> - Quit.

Enter choice> a or <CR>
```

The system verifies which customer databases are available on the RMD under directory 'backup' and displays them.

```
The following databases are available on the
removable media:

          <CR> -> <s> - Single database
           created: mon-day-year hour:min

          <q>-Quit

Enter choice> s or <CR>
```

18 Continue with database installation.

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

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

You selected to transfer single database from RMD
to FMD on Core x.

The database will be converted from release xxxx.

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

Please enter:

          <CR> -> <a> - Continue with database
install.

          <q> - Quit.

Enter choice> a or <CR>
```

The installation summary screen appears. Verify successful installation and enter <CR> when ready.

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

+=================+========+========+============================+
|     Option      | Choice | Status |           Comment          |
+=================+========+========+============================+
| SW: RMD to FMD  |   yes  |   OK   |  install for rel 04xxx     |
+-----------------+--------+--------+----------------------------+
| Dependency Lists|   yes  |   OK   |                            |
+-----------------+--------+--------+----------------------------+
| AUTO-CSU Feature|   no   |        |  AUTO-CSU Disabled         |
+-----------------+--------+--------+--------------------+-------+
| IPMG Software:  |   no   |        |                            |
+-----------------+--------+--------+----------------------------+
| Database        |   yes  |   OK   | conversion from xxxx       |
+-----------------+--------+--------+----------------------------+
| CP-BOOTROM      |   yes  |   OK   |                            |
+-----------------+--------+--------+----------------------------+

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

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

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

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

        Please enter:

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

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

                For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> q
```

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

```
You selected to quit. Please confirm.

    Please enter:

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

        <n> - No, DON'T quit.


        Enter choice> <CR>

You selected to quit the Install Tool.

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




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

        DO NOT REBOOT USING BUTTON!!!


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


        Please enter:

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

        <m> - Return to the Main menu.

        Enter Choice> <CR>

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

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

>Rebooting system ...
```

At this point the system reloads and initializes.

End of Procedure

Verifying the upgraded database

Procedure 29
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 30
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


Local TIER 2 Health Total:10


Remote (Side 1, Inactive, Redundant):

Components without TIER 1 Health contribution:

     disp 1 15 1:In Service

     sio2 1 15 1:In Service

         cp 1 16:In Service

           ipb 1:In Service

TIER 1 Health Count Breakdown:

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

Remote TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:

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

ELAN 16 IP : 47.11.138.150 Health = 2

ELAN 17 IP : 47.11.138.153 Health = 2


Remote AML over ELAN Total Health:4

Remote Total IPL health = 6


Remote TIER 2 Health Total:10
```

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

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 PIV upgrade

Testing the Cores

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

From Core/Net 1, perform these tests:

LD 137

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

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

Procedure 31
Testing Core/Net 0

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

1 Perform a redundancy sanity test:

LD 135

STAT CPU	Get status of CPU and memory
TEST CPU	Test the CPU

2 Check the LCD states

a. Perform a visual check of the LCDs.

b. Test and LCDs:

LD 135

DSPL ALL

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

3 Test the System Utility card and the cCNI cards:

LD 135	Load program
STAT SUTL	Get the status of the System Utility card

TEST SUTL	Test the System Utility card
STAT CNI c s	Get status of cCNI cards (core, slot)
TEST CNI c s	Test cCNI (core, slot)

4 Test system redundancy and media devices:

LD 137	Load program
TEST RDUN	Test redundancy
DATA RDUN	Test database integrity
STAT FMD	Status of Fixed Media Device (FMD)
STAT RMD	Status of Removable Media Device (RMD)

5 Test that the system monitors are working:

LD 37	Load program
ENL TTY x	x= system XMS
STAT XSM	Check the system monitors
********	Exit program

6 Clear the display and minor alarms on both Cores:

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

7 Test the clocks:

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

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

b. Verify that the Clock Controllers are switching correctly.

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

8 Check dial tone.

9 Check applications (CallPilot, Symposium, Meridian Mail, etc.)

10 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)

11 Check the status of the FIJI alarms:

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

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

13 Check dial tone.

Switching call processing

Procedure 32
Switching call processing

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

Core/Net 0 is now the active call processor.

Procedure 33
Testing Core/Net 1

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

1 Perform a redundancy sanity test:

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

2 Test the System Utility card and the cCNI cards:

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

3 Test system redundancy and media devices:

LD 137	Load program
TEST RDUN	Test redundancy
DATA RDUN	Test database integrity
STAT FMD	Status of Fixed Media Device (FMD)
STAT RMD	Status of Removable Media Device (RMD)
********	Exit the program

4 Test that the system monitors are working:

LD 37	Load program
STAT XSM	Check the system monitors
********	Exit the program

5 Clear the display and minor alarms on both Cores:

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

6 Test the clocks:

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

LD 60	Load program
SSCK *x*	Get the status of the clock controllers (*x* is "0" or "1" for Clock 0 or Clock 1)
SWCK	Switch the Clock (if necessary)
********	Exit program

b. Verify that the Clock Controllers are switching correctly.

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

7 Check dial tone.

8 Check applications (CallPilot, Symposium, Meridian Mail, etc.)

9 Test the Fiber Rings:

a. Check that the Fiber Rings operate correctly:

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

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

RSTR	Restore both Rings to HALF state

c. Check that the Rings operate correctly:

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

10 Check the status of the FIJI alarms:

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

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

12 Check dial tone.

End of Procedure

Performing a customer backup data dump (upgraded release)

Procedure 34
Performing a data dump to backup the customer database:

1 Log into the system.

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

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

LD 43	Load program.
.	EDD

4 When “EDD000” appears on the terminal, enter:

EDD	Begin the data dump.

CAUTION

Loss of Data

If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

5 When “DATADUMP COMPLETE” and “DATABASE BACKUP COMPLETE” appear on the terminal, enter:

****	Exit program

End of Procedure

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

Upgrading and configuring the Signaling Server

Contents

This section contains information on the following topics:

Upgrading and reconfiguring the software

CS 1000 Release 5.0 introduces three Signaling Servers:

- Nortel CP PM Signaling Server
- IBM X306m Signaling Server
- HP DL320-G4 Signaling Server

These Signaling Servers do not support any Signaling Server software prior to CS 1000 Release 5.0 and therefore, are not subject to software upgrades in CS 1000 Release 5.0.

This chapter contains instructions for upgrading the Signaling Server software on a legacy Nortel ISP1100 Signaling Server (NTDU27AA 01, 02, or 03) from CS 1000 Release 4.0 or CS 1000 Release 4.5 to CS 1000 Release 5.0. In addition, it explains how to install the previous release of Signaling Server software on a legacy Nortel ISP1100 Signaling Server. All Signaling Servers can be re-configured once installed and connected to the system. This chapter also contains the instructions for re-configuring a Signaling Server.

CS 1000 Release 5.0 requires a Signaling Server to have at least 1 GB of RAM memory configured. Some Nortel customers may need to upgrade the RAM memory of their legacy Nortel ISP1100 Signaling Server before upgrading the Signaling Server software to CS 1000 Release 5.0.

To enable customers to configure 1 GB of RAM memory on their legacy Nortel ISP1100 Signaling Server, a Nortel ISP1100 Memory Upgrade Kit (NTDU80CA) is available. Two NTDU80CA Upgrade Kits are required to configure 1 GB of RAM memory on any Nortel ISP1100 Signaling Server. Refer to the *Signaling Server: Installation and Commissioning* (NN43001-312) NTP for instructions on using the NTDU80CA memory upgrade kit to upgrade the RAM of a Nortel ISP1100 Signaling Server.

Overview

The upgrade process recognizes the existence of IP configuration data and application databases on the Signaling Server and does not impact on them during the upgrade. However, Nortel recommends that you back up the

application databases prior to the upgrade as a precautionary measure. The application databases consist of the IP Phone database and the NRS database.

If you do not know whether the Signaling Server being upgraded has an NRS, use Procedure 35, "Verifying the presence of an NRS," on page 131 to make this determination.

If you have an NRS database on the Signaling Server and wish to back it up prior to the upgrade, you must use the back up tool in NRS Manager. It is recommended that you download the backup file to your local PC after the back up. After the Signaling Server is upgraded, NRS Manager is used to restore the NRS database (from your local PC) and activate it for use by the NRS. For instructions on backing up and restoring an NRS database, refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

For instructions on backing up and restoring the IP Phone database, refer to *IP Line Fundamentals* (NN43001-500).

Procedure 35
Verifying the presence of an NRS

1 Open Internet Explorer.

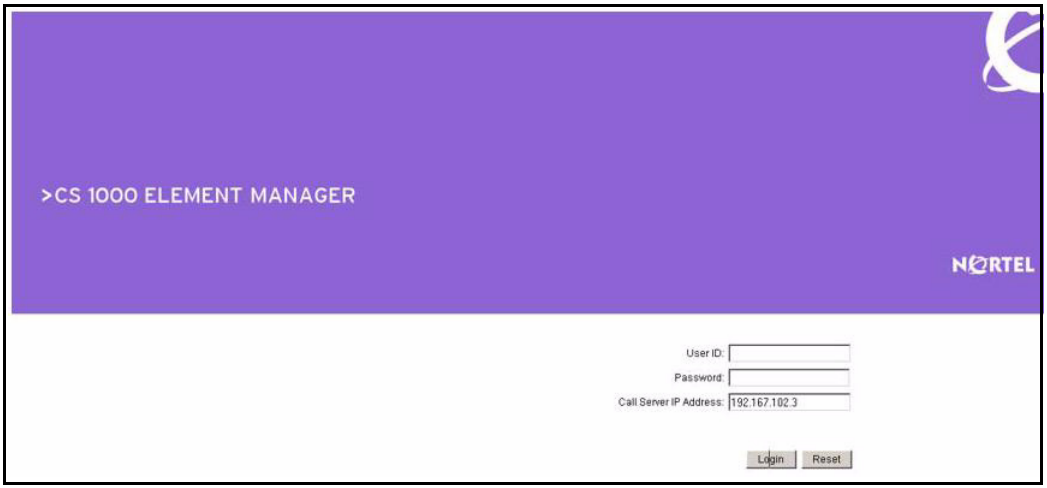
2 Enter the ELAN or TLAN network interface IP Address of the primary Signaling Server as the URL.

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

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

The Element Manager logon web page appears.

Figure 25
Element Manager logon page



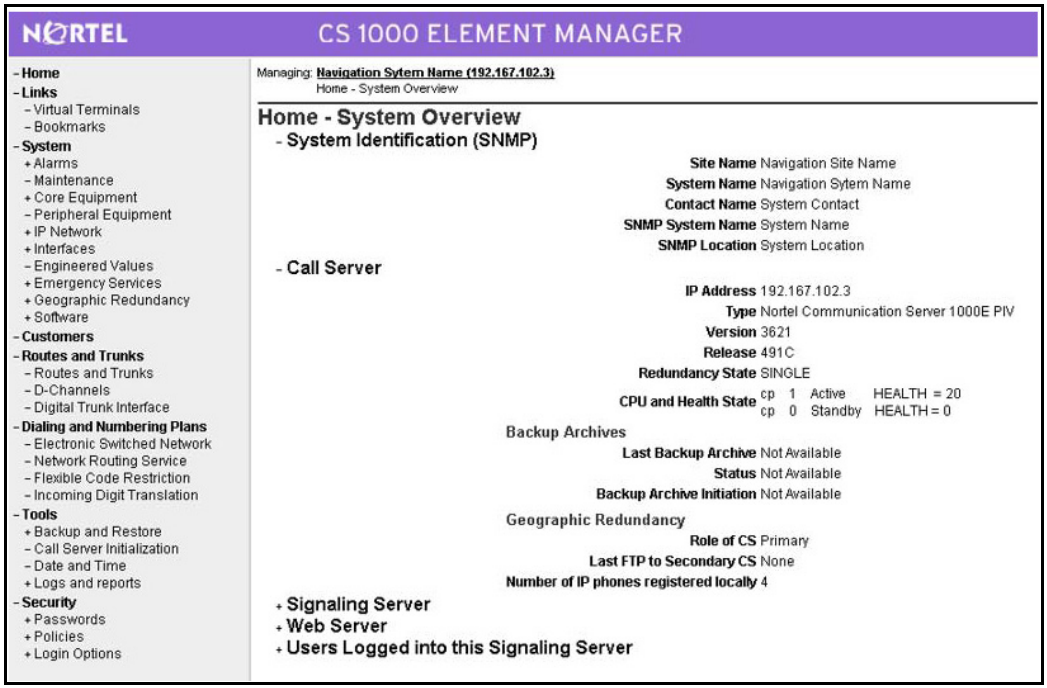
Initially, you can be prompted to enter the Call Server IP address, because the Call Server is used for web logon authorization. The Call Server IP address is a requirement, because unless you entered additional configuration parameters during the Signaling Server installation, the node configuration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

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

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

If the logon is successful, the Element Manager “Home - System Overview” screen appears (see Figure 26 on page 133).

Figure 26
Element manager: Home - System Overview

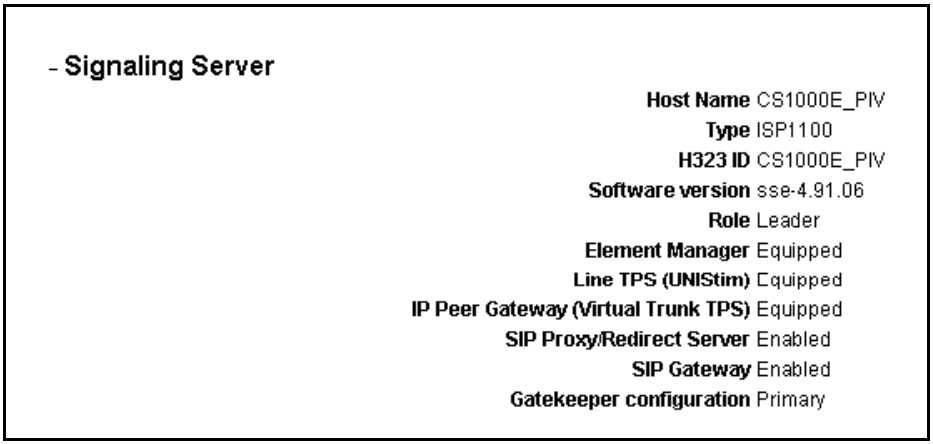


This screen identifies the components of your CS 1000 system.

4 Click the “+” symbol in front of the Signaling Server component.

The Signaling Server component expands to display the properties of the Signaling Server (see Figure 27 on page 134).

Figure 27
Signaling Server properties



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

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

End of Procedure

Before you begin

Before upgrading the software, you must do the following:

- Connect the Signaling Server — see *Signaling Server: Installation and Commissioning* (NN43001-312)
- Take a precautionary backup of the IP Phones application database.
- Take a precautionary backup of the NRS database.
- Obtain the CS 1000 Release 5.0 version of the Signaling Server Software Install CD-ROM— see *Signaling Server: Installation and Commissioning* (NN43001-312)
- Ensure that there is 1 GB of RAM configured on your legacy Nortel ISP1100 server

Upgrading the CS 1000 Release 4.0 or CS 1000 Release 4.5 Signaling Server

IMPORTANT!

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

Use the following procedure to upgrade the Signaling Server software on a legacy Nortel ISP1100 server.

Procedure 36
Upgrading the Signaling Server software

1 Insert the Signaling Server Software CD into the CD drive, and press the **RST** button on the front panel to cold boot the Signaling Server.

The VxWorksTM system boot screen appears (see Figure 28 on page 136).

Figure 28
VxWorks system boot

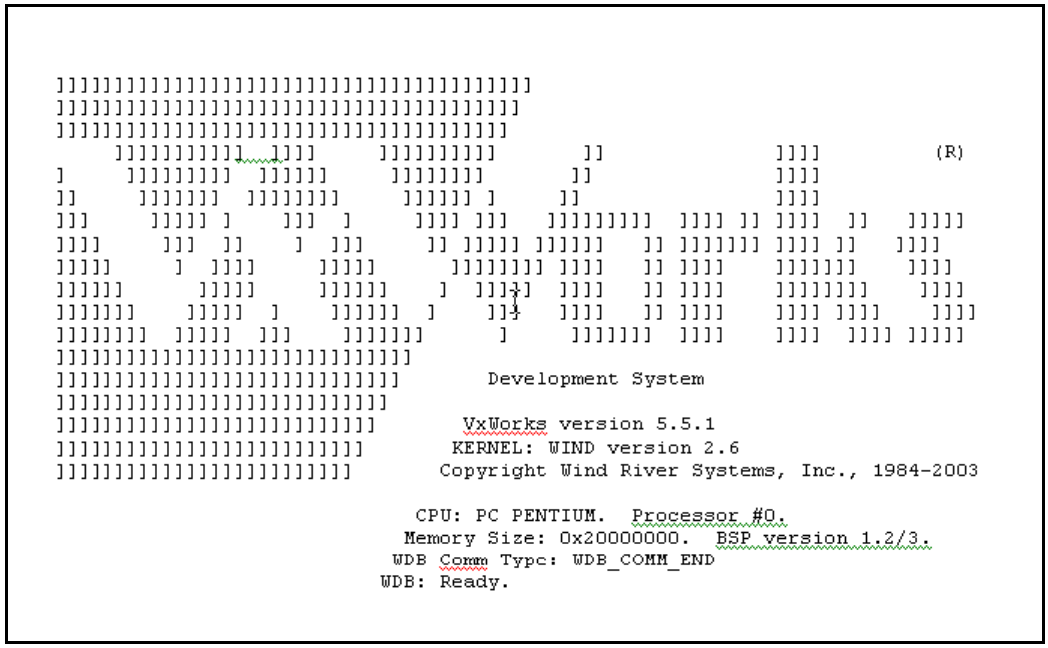
```
       VxWorks System Boot
Copyright 1984-2004 Wind River Systems, Inc.

CPU: PC PENTIUM
Version: VxWorks5.5.1
BSP version: 1.2/3
Creation date: Oct 6 2006, 15:44:38

Mounting /cd0
Found /cd0/nvram.sys
Mounting /boot
Found /boot/nvram.sys

Selecting nvram file from 2 sources

Read boot parameters from:

C: CDROM Drive
H: Hard Disk
10 [H] c
```

2 Enter c at the prompt to force the Signaling Server to boot from the Signaling Server Software CD..

Note: Enter c within ten seconds to ensure that the Signaling Server boots from the CD drive.

The VxWorksTM banner screen appears.

Figure 29
VxWorks banner

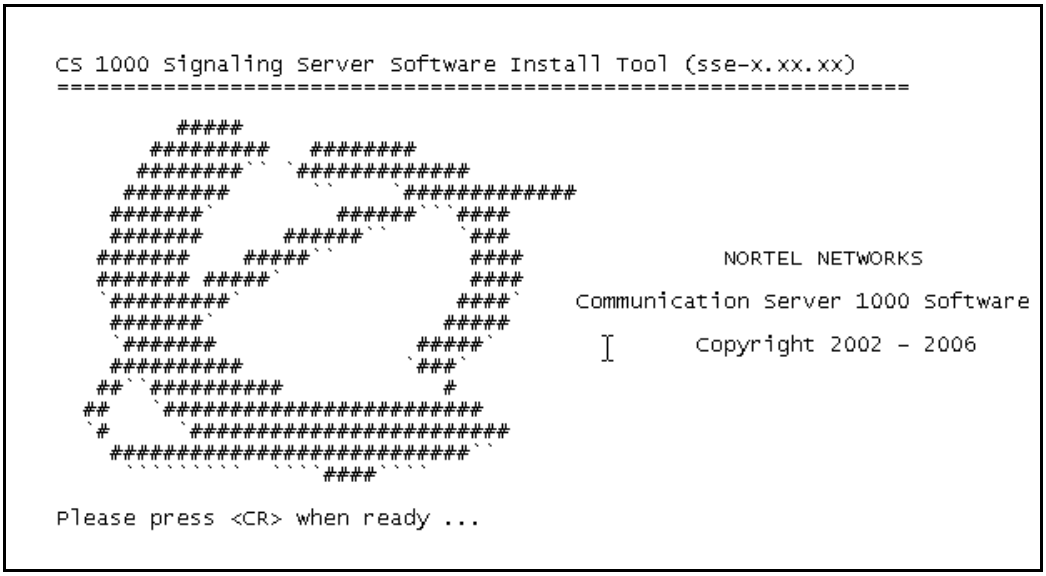


The following message appears:

```
/boot/ - Volume is OK
/p/ - Volume is OK
/u/ - Volume is OK
/e/ - Volume is OK
Loading /cd0/load/inst.out
```

The Signaling Server Software Installation Tool banner screen appears.

Figure 30
Installation Tool banner



3 Press<CR> to perform system checks and begin software installation.

The system verifies the file systems.

The following messages appears:

```
Verifying filesystems ...
Filesystems verification succeeded.

Copying "/cd0/disk.sys" to "/u/disk.sys".
```

The System Information screen appears (see Figure 31: “System Information” on page 139):

Figure 31
System Information

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

      ---------------------------------------
                SYSTEM INFORMATION
       ---------------------------------------

============================================================
Hostname: CS1000S_CP        S/W Ver: 4.50.88
Location: N/A
Found /boot/nvram.sys

   Role: Leader                  Set TPS: Enabled
Node ID: 5                      Vtrk TPS: Enabled
Node IP: 192.167.101.3          NRS Config: Primary GK + SIP
H.323 ID: CS1000M Chassis         CS IP: 192.167.100.3

ELAN IP: 192.167.100.4        TLAN IP: 192.167.101.2
ELAN SM: 255.255.255.0         TLAN SM: 255.255.255.0
ELAN GW: 192.167.100.1        TLAN GW: 192.167.101.1
ELAN MAC: 00:02:b3:e8:d0:ea    TLAN MAC: 00:02:b3:e8:d0:ea
============================================================

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

       Enter Choice>
```

4 Do one of the following:

- If you want to quit the upgrade and restore the previous release of software, enter **q** at the prompt. The Installation Tool Main Menu appears.

  Go to step 9 on page 147.

- If you want to continue the upgrade, press **CR** or enter **a** at the prompt.

Regardless of what option is chosen, the Install Tool Main Menu appears:

Figure 32
Install Tool Main Menu

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

                     MAIN MENU

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 intial system parameters.
          <g> - To change board location information (CPPM only).
          <h> - To go to the Tools Menu.

          Enter Choice>
```

5 Do one of the following:

- Enter **a** to upgrade the Signaling Server software, IP Phone firmware, and Voice Gateway Media Card loadware.

Note: The upgrade process does not include Signaling Server configuration steps. If the Signaling Server is being upgraded, IP configuration data already exists on the server.

- Enter **b** to upgrade only the Signaling Server software.

The following sample lines appear:

```
Copying "/cd0/ssexxxxx.p/disk.sys" to
"/u/disk.sys".
"/cd0/sse30047.p3/install.dat" parsed.

Processing the install control file ...
"/cd0/ssexxxxx.p/install.dat" parsed.
```

Regardless of the option chosen, the Dependency list installation screen appears.

Figure 33
Dependency list

```
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>
```

6 Do one of the following:

- Press **CR** or enter **y** to install dependency lists and continue with the upgrade.
- Enter **n** to continue the upgrade without installing the dependency lists.

Regardless of the option chosen, the Installation Status Summary screen appears:

Figure 34
Installation Status Summary

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

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

+==================+========+========+================================+
|     Option       | Choice | Status |           Comment              |
+==================+========+========+================================+
| software         |  yes   |        | upgrade x.xx.xx to x.xx.xx     |
+------------------+--------+--------+--------------------------------+
| Dependency Lists |  yes   |        | copy ALL                       |
+------------------+--------+--------+--------------------------------+
| firmware         |  no    |        | copy ALL                       |
+------------------+--------+--------+--------------------------------+
| loadware         |  no    |        | copy ALL                       |
+------------------+--------+--------+--------------------------------+
| configuration    |  no    |        |                                |
+------------------+--------+--------+--------------------------------+

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

       Enter Choice>
```

7 Press **<CR>** or enter **y** to start the upgrade.

The following screens and messages appear in succession (beginning with Figure 35: “Software upgrade start” on page 143)

Figure 35
Software upgrade start

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

You have selected to upgrade the system from version x.xx.xx to
version x.xx.xx. THIS WILL ERASE ALL OLD SYSTEM FILES. Data files
will be preserved.

Starting upgrade from version x.xx.xx to version x.xx.xx.

Backed up "/boot/nvram.sys".

Initializing protected partition ...
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT32, sectors per cluster 8
  2 FAT copies, 0 clusters, 4096 sectors per FAT
  Sectors reserved 32, hidden 0, FAT sectors 8192
  Root dir entries 0, sysId (null), serial number 9166bc15
  Label:"
Disk with 4194304 sectors of 512 bytes will be formatted with:
Volume Parameters: FAT type: FAT32, sectors per cluster 8
  2 FAT copies, 523260 clusters, 4096 sectors per FAT
  Sectors reserved 32, hidden 0, FAT sectors 8192
  Root dir entries 0, sysId VX5DOS32, serial number 9166bc15
  Label:"
"/p" initialized
/p/ - Volume is OK
Creating directory "/p/data".
Attempting to install bootstrap on primary sector of device /dev/hdal
Found cbio device /dev/hda1 [0x1a001ddc] with sector size 512
Installing bootstrap on device /dev/hda1
Installing image /p/load/bootrom.bin on /boot
Found cbio device 0x1a001ddc with sector size 512
Copying /p/load/bootrom.bin to /boot/bootrom.sys
Boot ROM "/p/load/bootrom.bin" installed.

Erasing /u/patch/reten/reten.pch.
Erasing /u/patch/reten/mdp.ini.
Erasing /u/patch/reten/p22473_1.ss1.
```

Figure 36
Software upgrade 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.

/p/ - Volume is OK
```

Figure 37
IP Phone firmware upgrade

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

The installation source contains multiple Internet Telephone firmware
files.

Delete previous registered F/W files:
Deleting F/W file - /u/fw/x00.fw...
Deleting F/W file - /u/fw/x01.fw...
Deleting F/W file - /u/fw/x02.fw...
Deleting F/W file - /u/fw/x21.fw...
Deleting F/W file - /u/fw/x24.fw...
Deleting F/W file - /u/fw/x25.fw...
Copying "/cd0/0603B76.bin" to "/u/fw/0603B76.bin
Copying "/cd0/0602B76.bin" to "/u/fw/0602B76.bin
Copying "/cd0/0604B76.bin" to "/u/fw/0604B76.bin
Copying "/cd0/0621C44.bin" to "/u/fw/0621C44.bin
Copying "/cd0/0624C44.bin" to "/u/fw/0624C44.bin
Copying "/cd0/0625C44.bin" to "/u/fw/0625C44.bin
Copying "/cd0/0627C44.bin" to "/u/fw/0627C44.bin
```

Figure 38
Voice Gateway Media Card loadware upgrade

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

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

Copying "/cd0/IPLxxxxx.p2" to "/u/fw/IPLxxxxx.p2".
Copying "/cd0/IPLxxxxx.sa" to "/u/fw/IPLxxxxx.sa".
Copying "/cd0/IPLxxxxx.mc32s" to "/u/fw/IPLxxxxx.mc32s".
```

Figure 39
Retain existing IP configuration

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

Since this is a system upgrade, the existing configuration files will
be retained.

If you need to re-configure this Signaling Server, then please
select the basic configuration option from the Main Menu.
```

Figure 40
Installation Status Summary

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

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

+=================+========+======+================================+
|     Option      | Choice | Status|           Comment             |
+=================+========+======+================================+
| software        |  yes   |  ok   | upgrade x.xx.xx to x.xx.xx
+-----------------+--------+------+--------------------------------+
| Dependency Lists |  yes   |ignore | copy NONE
+-----------------+--------+------+--------------------------------+
| firmware        |  yes   |  ok   | copy i2002 version 1.76        |
| firmware        |  yes   |  ok   | copy i2002 version 1.76        |
| firmware        |  yes   |  ok   | copy PhaseII IP Firmware v. 3.B6
| firmware        |  yes   |  ok   | copy i2007 IP Firmware v. 2.44  |
| firmware        |  yes   |  ok   | copy 1120E IP Firmware v. 2.44  |
| firmware        |  yes   |  ok   | copy 1140E IP Firmware v. 2.44  |
| firmware        |  yes   |  ok   | copy 1150E IP Firmware v. 2.44  |
+-----------------+--------+------+--------------------------------+
| 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   |  no    |ignore|                                 |
+-----------------+--------+------+--------------------------------+

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

8 Press **<CR>** and the Install Tool Main Menu screen appears:

Figure 41
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, 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 go to the Tools Menu.
         <q> - Quit.

         Enter Choice>
```

9 Enter q to quit the Install Tool.

The Install Tool quit confirmation screen appears (see Figure 42 on page 148).

Figure 42
Install 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>

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

Rebooting system
```

10 Remove the Signaling Server Software CD from the CD drive and enter q to quit the Installation Tool and reboot the system.

The following system messages appear:

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

Rebooting system ...
```

End of Procedure

If you are upgrading from Succession 3.0, you must reconfigure the Signaling Server to obtain and configure the NRS. If you do not reconfigure the Signaling Server, you cannot use a SIP Redirect Server. Refer to *Signaling Server: Installation and Commissioning* (NN43001-312) for instructions on reconfiguring a Signaling Server.

Re-installing the previous software release

This section is only relevant to a Nortel ISP1100 Signaling Server. The Nortel CP PM, IBM X306m and HP DL320-G4 Signaling Servers only run CS 1000

Release 5.0 Signaling Server software. Earlier releases of the Signaling Server software cannot be installed on these Signaling Servers.

Use the following procedure to reinstall the previous release of software on a Nortel ISP1100 Signaling Server.

Procedure 37
Re-installing the previous software release

1 Enter **t** at the Installation Tool Main Menu screen.

Figure 43
Installation 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, 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>
```

The Tools Menu appears.

Figure 44
Tools Menu

2 Enter g to Clear the boot sector to allow the re-installation of the previous release.

After the boot sector is cleared, the following system messages appear:

```
The boot sector is cleared.

Insert the installation CD and restart the system.
```

3 Insert the Signaling Server Softwarel CD for the previous release, and install the software accordingly.

End of Procedure

For more information on upgrading or installing Signaling Servers, refer to *Signaling Server: Installation and Commissioning* (NN43001-312).

Appendix A: Upgrade checklists

Contents

This section contains information on the following topics:

Introduction

The following section provides Large System upgrade checklists.

Technical Support

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

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

Site details

Table 13
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 14
Upgrade details

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

Pre-upgrade checklists

Software Upgrade

Software audit

Table 15
Software audit

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

License Upgrade

Table 16
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 17
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 18
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 18
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 19
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 20
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 20
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 will new software if required
LD 117 - PRT SEL 500 - Same as above

Post-conversion checks

Table 21
Post-conversion checks

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

Quick reference

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

Table 22
IGS cabling chart (Part 1 of 2)

Net Group	Net Shelf	IGS Connector	IGS Net	Slot	Net	DIGS	Slot Connector	Intergroup connector	IGS	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 22
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	10	0
2	1	1	2	9	2	9	TOP	J15	11	1
2	1	0	3	8	2	9	BOTTOM	J20	9	
3	0	0	3	8	2	9	BOTTOM	J4	12	
3	0	1	2	9	2	9	TOP	J9	14	0
3	1	1	2	9	2	9	TOP	J14	15	1
3	1	0	3	8	2	9	BOTTOM	J19	13	
4	0	0	3	8	2	9	BOTTOM	J5	16	
4	0	1	2	9	2	9	TOP	J10	18	0
4	1	1	2	9	2	9	TOP	J14	19	1
4	1	0	3	8	2	9	BOTTOM	J18	17	

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 23
Switch settings (Part 1 of 2)

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

Table 23
Switch settings (Part 2 of 2)

7	0	14	224-239	7 0	off on on on off off off on	off on on off off off off on
7	1	15	240-255	7 1	off on on on off off off off	off on on off off off off off

Software generic by machine type

Table 24
Software generic by machine type

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

Appendix B: Technical Assistance service

Contents

This section contains information on the following topics:

Nortel Technical Assistance Centers

To help customers obtain maximum benefit, reliability, and satisfaction from their CS 1000E systems, Nortel provides technical assistance in resolving system problems. Table 25 on page 164 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 25
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 25
Customer Technical Services (Part 2 of 2)

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

Services available

Services available through the Technical Assistance Centers include:

- diagnosing and resolving software problems not covered by support documentation
- diagnosing and resolving hardware problems not covered by support documentation
- assisting in diagnosing and resolving problems caused by local conditions

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

requests (Class S1, S2, and NS) are serviced during normal working hours. Tables 26 and 27 describe the service classifications.

Table 26
Technical service emergency classifications

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

Table 27
Technical services non-emergency classifications

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

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

Requesting assistance

Collect the information listed in Table 28 before you call for service.

Table 28
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 26 and 27)	
Description of assistance required	

Index

Nortel Communication Server 1000

Communication Server 1000M and Meridian 1

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

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