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 PII FNF Upgrade

Document Number: NN43021-472
Document Release: Standard 01.01
Date: May 2007

Revision history

May 2007

Standard 01.01. This document is up-issued for Communication Server 1000 Release 5.0.

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:

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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 123.

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 157.

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

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 145. 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 3)

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

Table 3
Print site data (Part 2 of 3)

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

Table 3
Print site data (Part 3 of 3)

Site data	Print command	
Print the configured host information	LD 117	PRT HOST (provides system IP addresses)
Superloops and XPEs	LD 97	
	REQ 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

Performing the upgrade

Contents

This section contains information on the following topics:

Introduction

For information on upgrading and configuring the Signaling Server, see Appendix : “Upgrading and configuring the Signaling Server” on page 123.

The target upgrade to CS1000M MG CP PII 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.

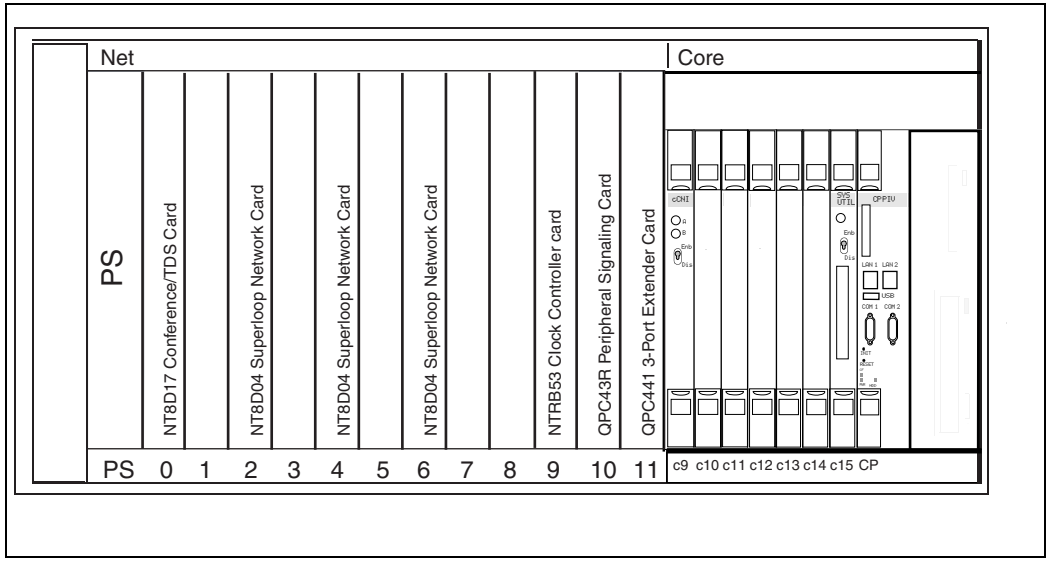
Note: The NTND14 BX 50' cables are manufacture discontinued.

This upgrade takes a CS 1000M CP PII IGS to a CS 1000M CP PII with FNF. Additional groups can be added by following the Adding a Network Group procedures in *CS 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458).

To upgrade a Meridian 1 Option 81C/IGS system to a Meridian 1 Option 81C CP PII 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.

Figure 1
CP Core/Net Module



Reviewing upgrade requirements

Check software received

The following software packages are required to upgrade a system to Meridian 1 Option 81C with CP PIV:

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

- Software Install Kit, containing the following items:
  - One CD ROM containing:
    - Install Software files
    - CS 1000 Release 5.0 software
    - Dep. Lists (PEPs)
    - Key code File
  - One blank floppy disk for database backup
- One Nortel CS 1000 Release 5.0 Documentation CD

Check equipment received

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

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

CAUTION

Service Interruption

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

Check vintage requirements for existing hardware

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

- The NT4N65AC cCNI card must be minimum vintage of AC.
- The NT4N48 System Utility card must be minimum vintage AA.
- The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.
- The NTRB53 Clock Controller cards must be minimum vintage AA.

- The existing QPC471 Clock Controller cards must be minimum vintage H or the QPC775 Clock Controller cards (all countries except USA) must be minimum vintage E.
- NT6D41CA (DC) Power Supply
- NT8D29BA (AC) Power Supply
- The QPC43 Peripheral Signaling cards must be minimum vintage R.

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

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 37 and Table 6 on page 38 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 PII with FNF systems (Part 1 of 3)

Order number	Description	Quantity per system
NT4N39	CP PII Call Processor Card (256 MByte memory)	2
NT4N40AA	CP Core/Network Card Cage AC/DC	2
NT4N65AC	CP Core Network Interface Card (2 ports)	2
NT4N48	CP System Utility Card	2
NT4N88AA	CP to I/O Panel DTE Cable (48 in.)	2
NT4N88BA	CP to I/O Panel DCE Cable (48 in.)	2
NT4N90BA	CP to I/O Panel Ethernet Cable (48 in.)	2

Table 4
Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 2 of 3)

Order number	Description	Quantity per system
*NT8D01BC	Controller - Four Card	1
*NT8D04BA	Superloop Network Card	
*NT8D17FA	Conference/TDS Card	
*NT8D22AC	System Monitor	
*NT8D41BA	Quad SDI Paddle Board	1
*NT8D46AD	System Monitor to SDI Cable (60 in.)	1
*NT8D46AL	System Monitor Serial Link Cable (7 ft)	1
*NT8D46AS	System Monitor InterCPU Cable (30 in.)	1
*NT8D80BZ	CPU Interface Cable (5 ft.)	
*NT8D84AA	SDI Paddleboard to I/O Cable (18 in.)	
*NT8D90AF	SDI Multi-Port Extension Cable (10 ft)	
*NT8D91AD	Network to Controller Cable (6 ft)	
*NT8D99AD	CPU to Network Cable (6 ft)	2
NTRB53AA	Clock controller	2
NTRB33	Fiber Junctor Interface (FIJI) Card	Determined by system configuration
NTRC17BA	CP Ethernet to Ethernet Cable (8.5 ft)	2
NTRC46BB	Clock - FIJI Cable (1.7M - 2.4M (5.5 ft - 8 ft))	2
NTRC47AA	FIJI - FIJI Sync Cable	Determined by system configuration

Table 4
Minimum requirements for Meridian 1 Option 81C CP PII with FNF systems (Part 3 of 3)

Order number	Description	Quantity per system
NTRC48XX	FIJI Fiber Ring Cable (2M (6 ft.))	Determined by system configuration
NTRC49AA	Clock - Clock Sync Cable	1
NTRE39AA	Optical Cable Management Card (OCMC)	Determined by system configuration
NTRE40AA	Dual Ethernet Adapter (RJ-45) for I/O Panel	2
*P0745716	Rear I/O Panel	2
P0605337	CP Card Slot Filler Panel	Determined by system configuration
Note: *Customer supplied from existing system.		

Check required power equipment

Table 5 lists the equipment required for DC-powered systems. Table 6 on page 38 lists the equipment required for AC-powered systems.

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

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

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

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

Check required tools

Table 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
- 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

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

— 11/32 Deep Socket
— Flashlight

Upgrading Core 1

Procedure 3
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 4
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 5
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 6
Upgrading Clock Controller 1

CAUTION

Clock Controller cards must be NTRB53 Clock Controller cards.

CAUTION — Service Interruption

Service Interruption occurs if wrong Clock Controller is removed!

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

Do not move Clock Controller 0 at this time.

If the system has a QPC471 or QPC775 Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in slot 13 of any network shelf other than the Core/Net shelf) and verify settings according to Table 9 on page 43.

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

1 Label and disconnect the Clock Controller 1.

2 Disconnect the cable from the Clock Controller 1 faceplate.

3 If primary and secondary clock reference cables are connected to the Clock Controller 1 faceplate, disconnect them last.

4 Remove QPC Clock Controller 1 from the Network Module.

5 Set the new NTRB53 Clock Controller 1 switch settings according to and Table 9 on page 43.

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

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

7 Re-connect all reference cables.

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

Table 9
Clock Controller switch settings for NTRB53

<table>
<tr><th>Multi-group
Single group</th><th>Machine
Type #1</th><th colspan="3">Faceplate Cable Length
CC to CC</th><th>Side
Number</th><th>Machine
Type #2</th></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td></td><td>5</td><td>6</td></tr>
<tr><td>Multi-group = Off
Single group = On</td><td>21E = Off
51, 61, 51C, 61C 71, 81, 81C = On</td><td>Off</td><td>Off</td><td>0-14 Ft.</td><td>Side 0 = On
Side 1 = Off</td><td>71,81 = Off
21E, 51, 51C, 61. 61C, 81C = On</td></tr>
<tr><td colspan="2" rowspan="3"></td><td>Off</td><td>On</td><td>4.6–6.1 m (15–20 ft.)</td><td colspan="2" rowspan="3"></td></tr>
<tr><td>On</td><td>Off</td><td>6.4–10.1 m (21–33 ft.)</td></tr>
<tr><td>On</td><td>On</td><td>10.4–15.2 m (34–50 ft.)</td></tr>
<tr><td colspan="7">Note: Switch 7 and 8 are not used.</td></tr>
</table>

End of Procedure

Procedure 7
Splitting the Cores

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

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

2 Hardware disable all CNI cards in Core 1.

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

End of Procedure

Procedure 8
Verifying settings for a QPC441 3PE Card

1 When you move the 3PE card, check the switch settings and jumpers. See Table 10 on page 45.

a. All 3PE cards must be vintage F or later.

b. Check that the RN27 Jumper is set to “A”.

WARNING

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

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

Table 10
QPC441 3PE Card installed in the NT4N40 Module

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

End of Procedure

Adding Side 1 FIJI hardware

Procedure 9
Adding Side 1 FIJI hardware

Follow the procedures below in sequence:

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

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

Procedure 10
Connecting the shelf 1 FIJI Ring cables (descending)

IMPORTANT!

The shortest Fiber Cable must always be used.

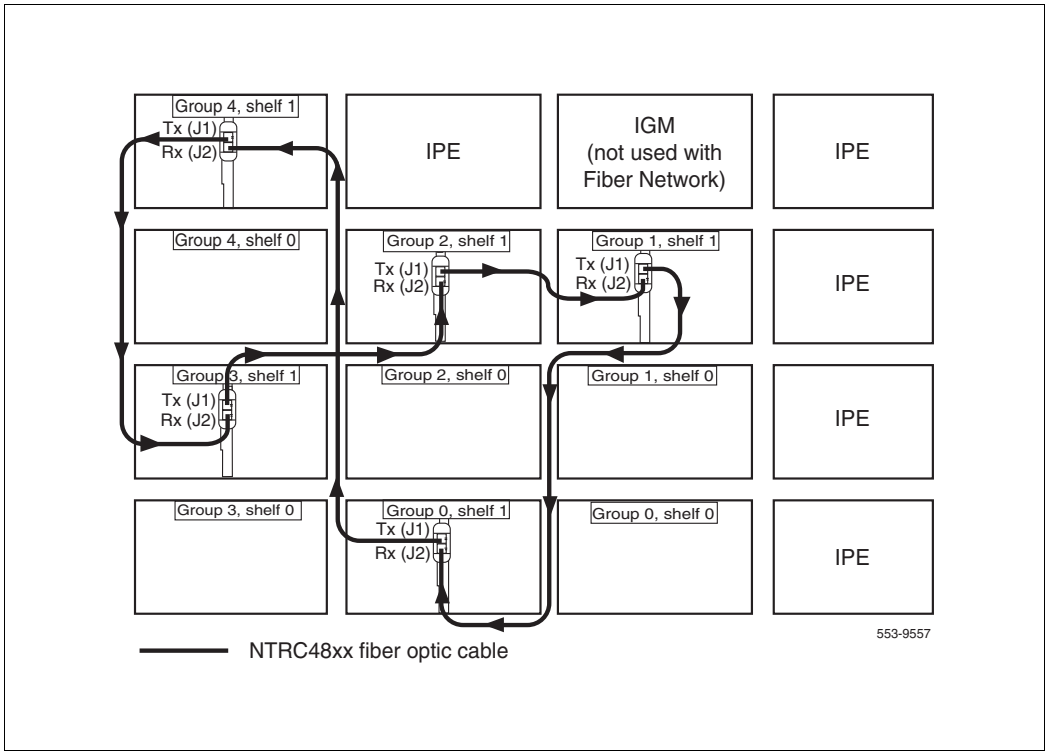
The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.

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

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

Create Fiber Ring 1. Connect the FIJI cards in all Network shelves 1 in **descending** order, from Tx to Rx (see Figure 2 on page 47 and Table 11 on page 49).

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



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

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

1 Start with Network group 0, shelf 1.

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

3 Connect a NTRC48xx cable from the Tx (J1) port of the FIJI card from the Tx (J1) port in the **highest Network group, shelf 1** to the Rx (J2) port in the **second highest Network group, shelf 1**.

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

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

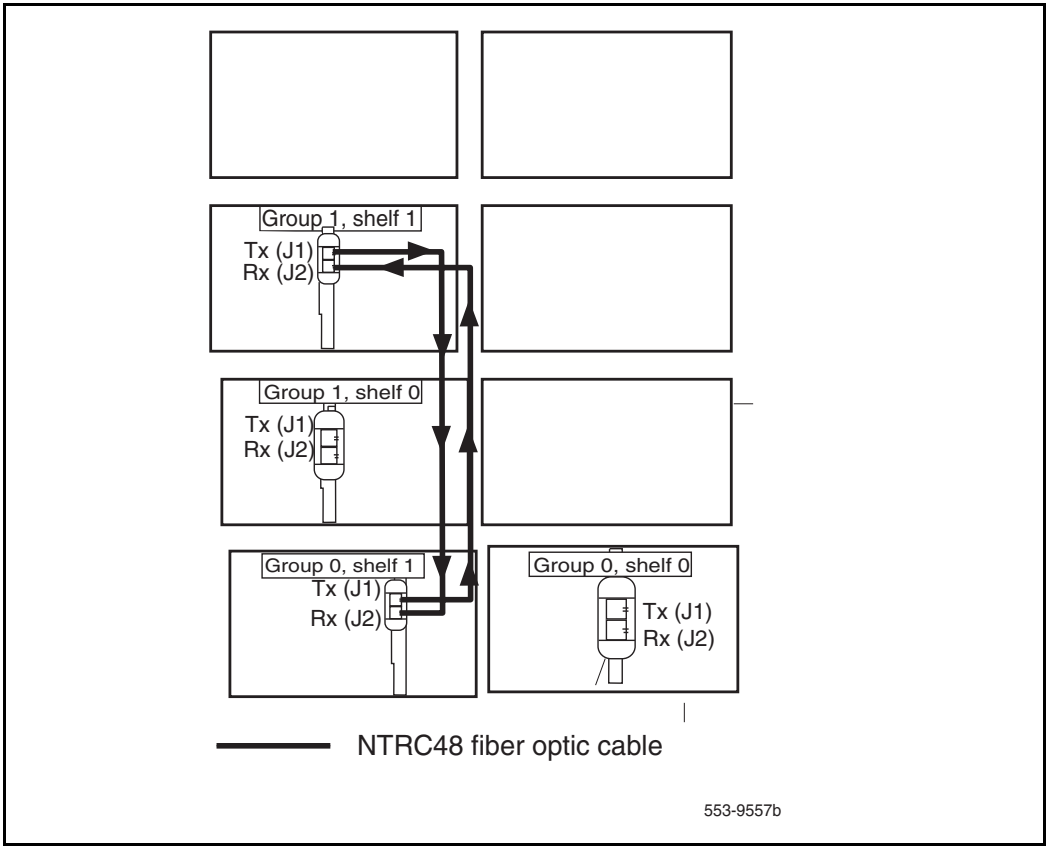
Note: Connect the Side 1 FIJI Ring cables only.

Table 11
FIJI Ring 1 connections

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

End of Procedure

Figure 3
Shelf 1 des*cending* fiber optic Ring (Meridian 1 Option 81C 2 group example)



Cable the Clock Controller 1 to FIJI

Procedure 11
Cable the Clock Controller 1 to FIJI hardware

Connect the cables to the Clock Controller 1 as shown in Figure 4 on page 51.

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

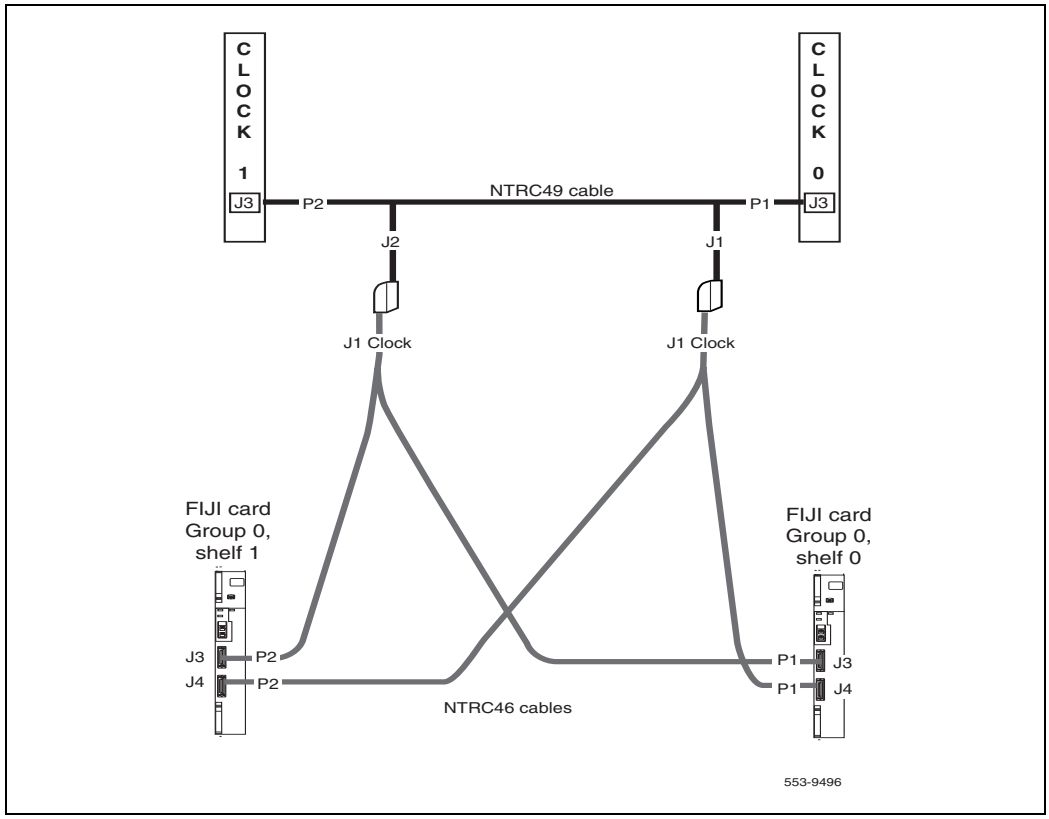
2 Connect P2 of the NTRC49 cable to port J3 of Clock Controller 1.

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 4
Clock Controller cable configuration



CS 1000 Release 5.0 upgrade

Upgrading the software

Procedure 12 outlines the steps involved in installing CS 1000 Release 5.0 for the CP PII processor.

Procedure 12
Upgrading the software

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

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

3. Place the CP PII Install floppy disk into the MMDU floppy drive.

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

4. Press the manual RESET button on the CP PII card faceplate.

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

```
Testing partition 0

      0 percent done...1 percent done......99
      percent done....100 percent done

Testing partition 1

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

```
Testing partition 2

      0 percent done...1 percent done......99
      percent done....100 percent completed!

Disk physical checking is completed!
```

```
Validate hard drive partition number and size...

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

Disk partitions and sectors checking is
completed!
```

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

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

ver: X.X FCS

Disk Check In Progress...

      total disk space (bytes) : XX

      bytes in each allocation unit: XX

      total allocation units on disk: XX

      bad allocation units: XX

      available bytes on disk: XX

      available clusters on disk: XX

      maximum available contiguous chain (bytes):
      XX

      available space fragmentation (%): XX

      clusters allocated: XX

      Done Checking Disk.

              checks for PART_X OK!

              pmDosFsCheck is completed!
```

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

```
 System Date and Time now is:

        Day-Month-Year, Hour:Min:Sec

        Succession Enterprise Software/Database/
BOOTROM CDROM INSTALL Tool

        Does this System have a Signaling
Server.....? (Default - No)

        Please enter:

<CR> -> <n> - No

        <y> - Yes

        Enter Choice>
```

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

```
                M A I N    M E N U

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

        Please enter:

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

        <t> - To Tools menu.

        <q> - Quit.

        Enter Choice> <CR>

>Validating Keycode

 The provided keycode authorizes the install of
XXXXXXX software

  (all subissues) for machine type XXXX

  (XXX processor on XXXX System)
```

IMPORTANT!

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

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

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

        Please enter:

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

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

        Enter Choice> <CR>

     >Obtain database file names
```

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

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

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

        Please enter:

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

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

                For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> b
```

9 Verify the CD-ROM version.

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

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

        Please enter:

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

        <q> - Quit.

        Enter Choice> <CR>

The installation CDROM contains version XXXXXXX_X.

        Please enter:

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

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

        Enter Choice> <CR>

     >copying direct.rec from /cd0/0300_KMR.N33/
target/p/sl1/direct.rec to /u/direct.rec

        >Updating /u/direct.rec

Do you want to install Dependency Lists?

        Please enter:

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

       <n> - No, Continue without Dependency Lists
installation

        Enter choice> n
```

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

10 Choosing Yes for the Dependency Lists installation.

```
 Do you want to install Dependency Lists?

        Please enter:

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

       <n> - No, Continue without Dependency Lists
installation

        Enter choice>

The default choice is YES as shown in the prompt.

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

Are you sure?

      Please enter:

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

        <y> - Yes, Go to the next menu

Enter choice>

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

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

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

             INSTALLATION STATUS SUMMARY

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

 Option          Choice  Status       Comment

SW: CD to disk   yes           install for rel 400

Dependency Lists yes

Database         no

CP-BOOTROM       yes
```

```
 Please enter:

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

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

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

>Erasing old file "/u/patch/p12749_1.cpp"

>Erasing old file "/u/patch/reten/reten.pch"

>Erasing old file "/u/patch/deplist/m16000_3.cpp"

>Copying "/cd0/0400_UMR.N33/target/u/patch/
p12749_1.cpp" to "/u/patch/p12749_1.cpp"

>Copying "/cd0/0400_UMR.N33/target/u/patch/
deplist/m16000_3.cpp" to "/u/patch/deplist/
m16000_3.cpp"
```

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

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

```
             ----------------------------
             INSTALLATION STATUS SUMMARY
             ----------------------------
Option          Choice    Status          Comment
SW:CD to disk    yes       ok    install rel 400
Dependency Lists yes     ok    core Version 1
                             Terminals Version 2
Database           no
CP-BOOTROM       yes       ok
          ------------------------------------------------
             INSTALLATION STATUS SUMMARY
          ------------------------------------------------
 Option         Choice     Status          Comment
SW: CD to disk   yes       ok    from 300 to
400
Dependency Lists yes       ok    None Available
SW: disk to ROM  yes       ok    from x210300 to
x2103400
Database         no
CP-BOOTROM       yes       ok  from x210300 to
x210400
IOP-ROM          yes       ok  from 02.00 to 02.00
```

Installation of DepList on an SSC system through software installation

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

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

The installation continues as below:

  INSTALLING NEW SOFTWARE AND FILES:
Erasing flash ROM
Installing new flash ROM software modules:
Programming: auxres
Programming: diskos
Programming: sl1res
Programming: ovlres
Programming: loadware
Programming: remupg
Calculating CRC-32 on flash ROM program store
Installing new directory record
Installing new files
Installing Dependency Lists
Building system loadware
Done.

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

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

For example:

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

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

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

11 Confirm all options before installing the software.

```
>Processing the Install Control file

      >Installing release XXXXX

                INSTALLATION STATUS SUMMARY

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

     =============+========+========+=============

 |     Option      |     Choice      | Status |   Comment          |

     =================+========+========+=========

| SW: CD to disk |       yes        |          | install for rel XXXXX|

     =============+========+========+=============

 |     Option      |     Choice      | Status |   Comment          |

     =================+========+========+=========

 |    Database     |      yes        |        |                    |


 |     Option      |     Choice      | Status |   Comment          |

     =================+========+========+=========

| CP-BOOTROM |      yes        |        |                    |


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

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

Enter Choice> <CR>

>Checking System Configuration

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

This will erase all old system files.
```

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

Please enter:

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

<q> - Quit.

Enter Choice> <CR>

>Starting Software Install

        >Upgrading from release XXXX to release
XXXXX
```

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

Select one of the six PSDL files

<1> Global 10 Languages

<2> Western Europe 10 Languages

<3> Eastern Europe 10 Languages

<4> North America 6 Languages

<5> Spare Group A

<6> Spare Group B

The languages contained in each selection are outlined as follows.

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

13 Continue with upgrade when prompted. Select a database to install. Confirm database transfer.

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

This will erase the database on the hard disk.

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

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

         Please enter:

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

<q> - Quit.

Enter Choice> <CR>
```

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

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

        Please confirm.

        Please enter:

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

        <n> - No, DO NOT load.

        Enter Choice> <CR>
```

14 The system restores the database and provides a status summary.

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

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

16 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
```

17 The system then prompts you to confirm and reboot.

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

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

Remove all disks from the system before rebooting.



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

        DO NOT REBOOT USING BUTTON!!!


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


        Please enter:

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

        <m> - Return to the Main menu.

        Enter Choice> <CR>

    >Removing (temporary files)




        >Rebooting system ...
```

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

End of Procedure

Verifying the upgraded database

Procedure 13
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

Checking 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 25. 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

Reconfiguring I/O ports and call registers

Procedure 14
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 15
Rebooting Core 1

CAUTION

Service Interruption

The INI may take up to 15 minutes to complete.

CAUTION

Service Interruption

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

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

1 In Core/Net 0 only, faceplate disable the CNI cards.

2 In Core/Net 0 only, faceplate disable the IODU/C card.

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

4 Faceplate disable Clock Controller 0 and unseat the card.

5 Faceplate disable all IGS/DIGS cards in shelf 0 and unseat the card.

6 Seat and faceplate enable Clock Controller 1.

7 Seat and faceplate enable all FIJI cards in shelf 1.

8 Faceplate enable CNI cards in Core 1.

9 Press the 'INIT' button on the CP PII card faceplate of Core 1 to initialize the system.

10 Wait for “DONE” and then “INI” messages to display before you continue.

CAUTION

Service Interruption

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

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

End of Procedure

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

Testing Core/Net 1

Procedure 16
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 17
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 12
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.

Procedure 18
Upgrading Clock Controller 0

CAUTION

Clock Controller cards must be NTRB53 Clock Controller cards.

CAUTION — Service Interruption

Service Interruption occurs if wrong Clock Controller is removed!

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

Do not move Clock Controller 1 at this time.

If the system has a QPC471 or QPC775 Clock Controller, replace it with an NTRB53 Clock Controller (to be installed in slot 13 of any network shelf other than the Core/Net shelf) and verify settings according to Table 13 on page 79.

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

1 Label and disconnect the Clock Controller 0.

2 Disconnect the cable from the Clock Controller 0 faceplate.

3 If primary and secondary clock reference cables are connected to the Clock Controller 0 faceplate, disconnect them last.

4 Remove QPC Clock Controller 0 from the Network Module.

5 Set the new NTRB53 Clock Controller 0 switch settings according to and Table 13 on page 79.

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

6 Place the NTRB53 Clock Controller in slot 13 of any Network shelf. DO NOT seat the Clock Controller 0 and DO NOT faceplate enable the card.

7 Re-connect all reference cables.

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

Table 13
Clock Controller switch settings for NTRB53

<table>
<tr><th>Multi-group
Single group</th><th>Machine
Type #1</th><th colspan="3">Faceplate Cable Length
CC to CC</th><th>Side
Number</th><th>Machine
Type #2</th></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td></td><td>5</td><td>6</td></tr>
<tr><td rowspan="4">Multi-group = Off
Single group = On</td><td rowspan="4">21E = Off
51, 61, 51C, 61C 71, 81, 81C = On</td><td>Off</td><td>Off</td><td>0-14 Ft.</td><td rowspan="4">Side 0 = On
Side 1 = Off</td><td rowspan="4">71,81 = Off
21E, 51, 51C, 61. 61C, 81C = On</td></tr>
<tr><td>Off</td><td>On</td><td>4.6–6.1 m (15–20 ft.)</td></tr>
<tr><td>On</td><td>Off</td><td>6.4–10.1 m (21–33 ft.)</td></tr>
<tr><td>On</td><td>On</td><td>10.4–15.2 m (34–50 ft.)</td></tr>
<tr><td colspan="7">Note: Switch 7 and 8 are not used.</td></tr>
</table>

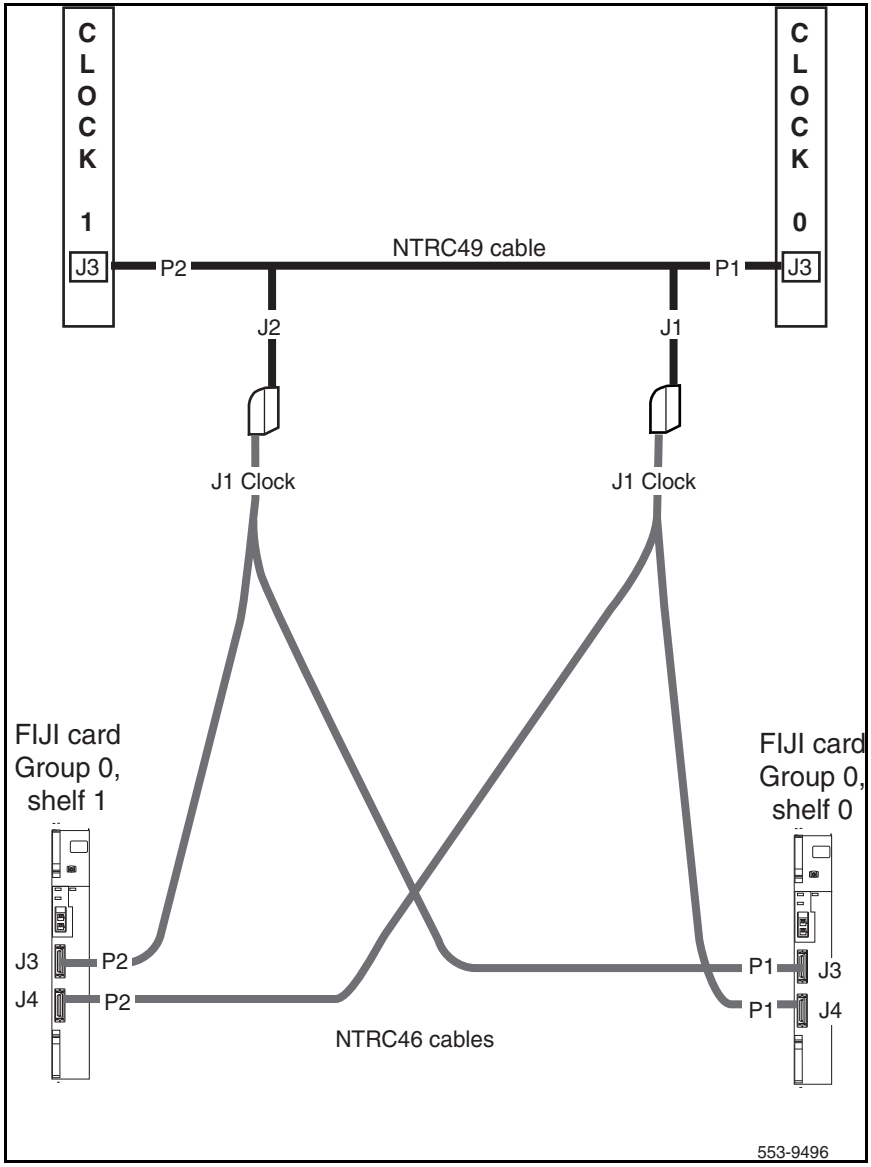
End of Procedure

Procedure 19
Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 5 on page 81:

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.
3. Connect P1 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, **shelf 0.**

Figure 5
Clock Controller cable configuration



Adding Side 0 FIJI hardware

Procedure 20
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

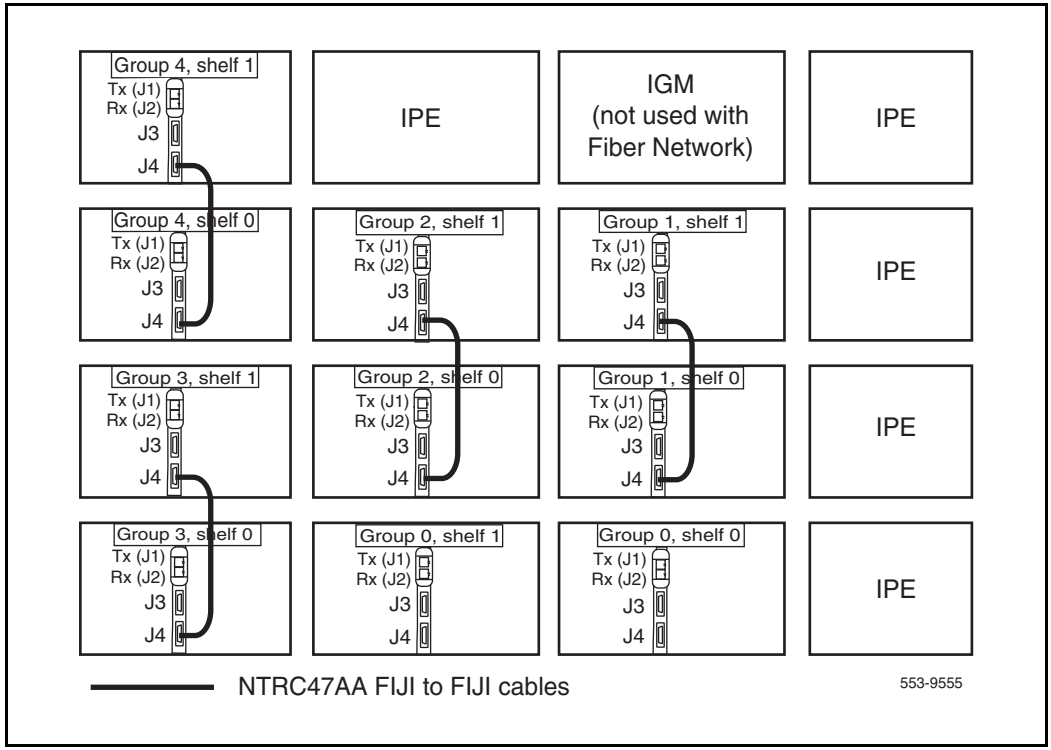
Procedure 21
Connect the FIJI to FIJI cables

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 22
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 6 on page 85 and Figure 6 on page 85).

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.

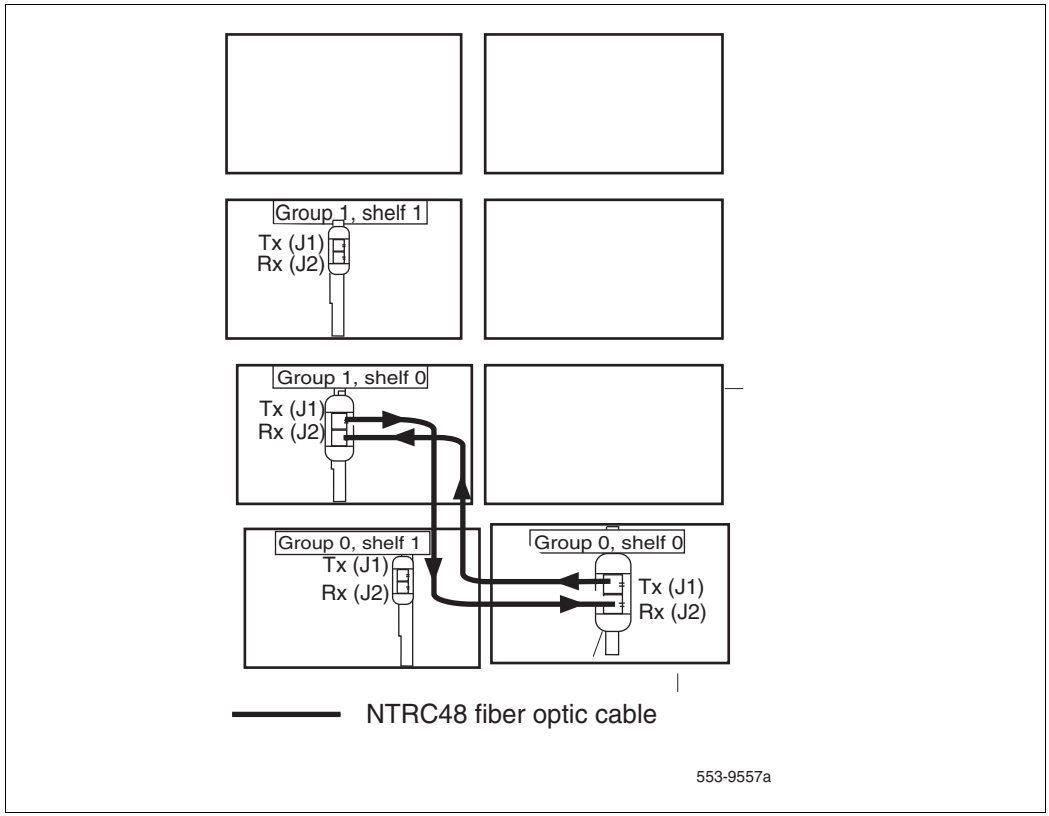
1 Start with group 0, shelf 0.

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 6
Shelf 0 as*cending* fiber optic Ring (Meridian 1 Option 81C 2 group example)



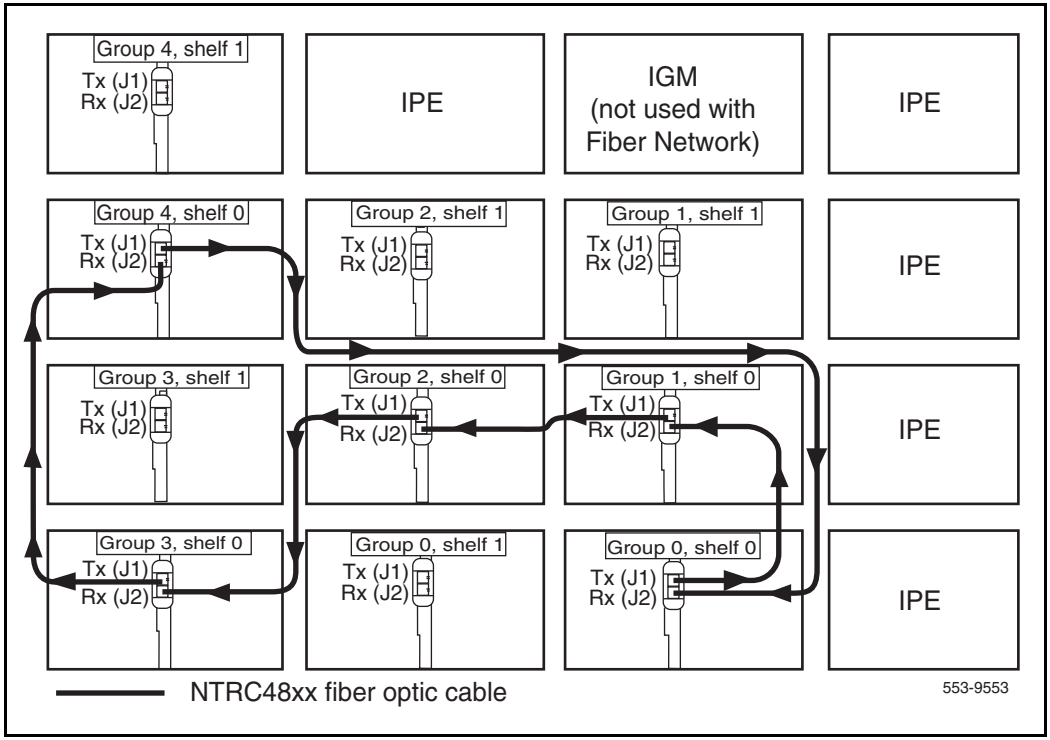
5 To complete the Ring, connect a final cable from the Tx (J1) port in the **highest number group** back to the Rx (J2) port in **Group 0, shelf 0.**

Table 14
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 7
Shelf 0 *ascending* fiber optic Ring (Meridian 1 Option 81C 5 group example)



Procedure 23
Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 8 on page 89:

1 Connect the Clock 0 to FIJI cable:

a. Connect P1 of the NTRC46 cable from Clock 0 to **J4** of the FIJI card in group 0, **shelf 0**.

b. Connect P2 of the NTRC46 cable for Clock 0 to **J4** of the FIJI card in group 0, **shelf 1**

2 Connect the Clock 1 to FIJI cable:

a. Connect P1 of the NTRC46 cable from Clock 1 to **J3** of the FIJI card in group 0, **shelf 0.**

End of Procedure

Powering up Core 0

Procedure 24
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

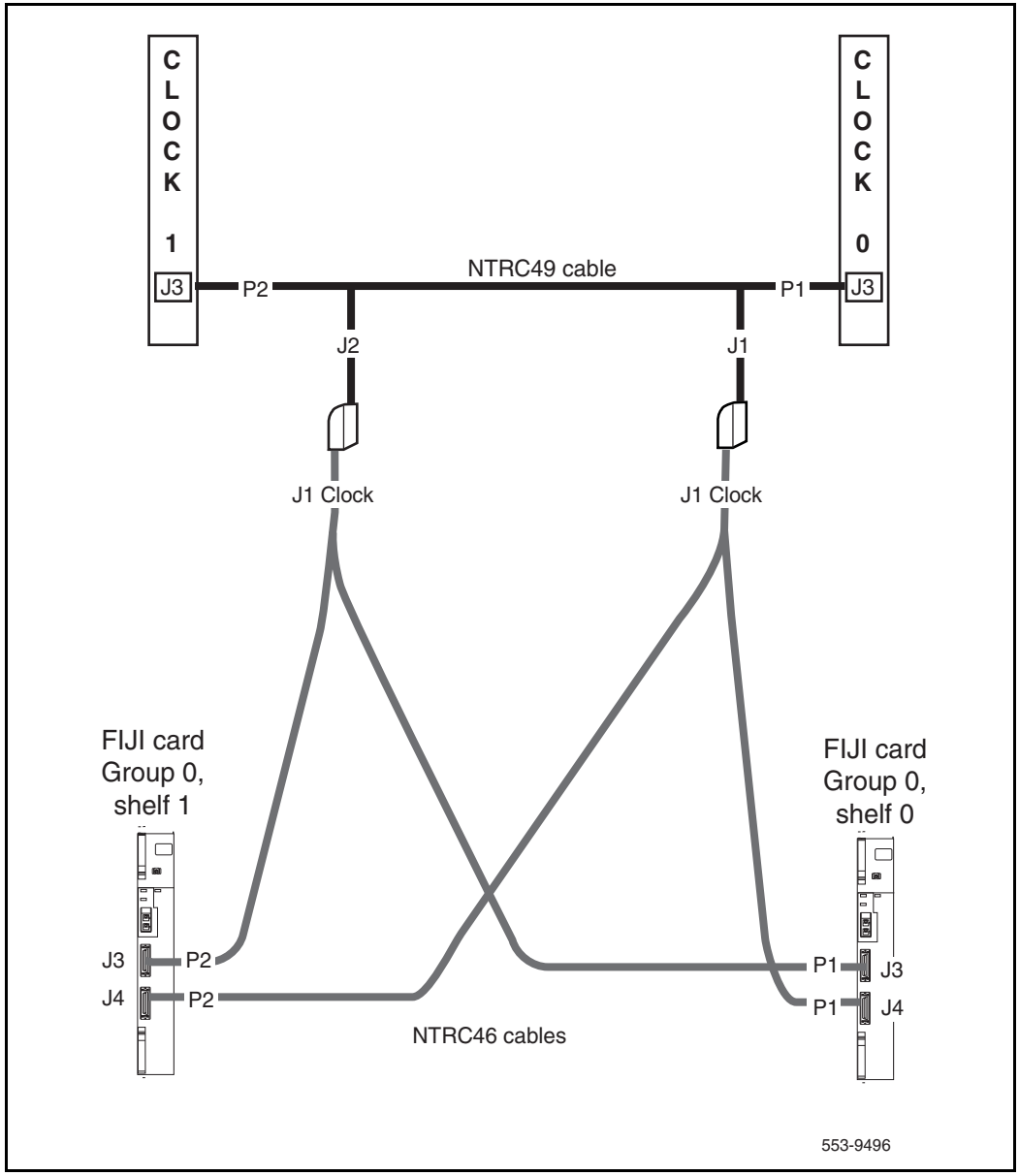
e. full duplex

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 8
Clock Controller cable configuration



CS 1000 Release 5.0 upgrade

Upgrading the software

Procedure 12 outlines the steps involved in installing CS 1000 Release 5.0 for the CP PII processor.

Procedure 25
Upgrading the software

1. Check that a terminal is connected to J25 on Core/Net 0.
2. In Core/Net 0, install the CD-ROM into the CD-ROM drive in the MMDU:
   a. Press the button on the CD-ROM drive to open the CD-ROM disk holder.
   b. Place the CD-ROM disk into the holder with the disk label showing.
   c. Press the button again to close the CD-ROM disk holder. Do not push the holder in by hand.

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

3. Place the CP PII Install floppy disk into the MMDU floppy drive.

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

4. Press the manual RESET button on the CP PII card faceplate.

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

```
Testing partition 0

      0 percent done...1 percent done......99
      percent done....100 percent done

Testing partition 1

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

```
Testing partition 2

      0 percent done...1 percent done......99
      percent done....100 percent completed!

Disk physical checking is completed!
```

```
Validate hard drive partition number and size...

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

Disk partitions and sectors checking is
completed!
```

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

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

ver: X.X FCS

Disk Check In Progress...

      total disk space (bytes) : XX

      bytes in each allocation unit: XX

      total allocation units on disk: XX

      bad allocation units: XX

      available bytes on disk: XX

      available clusters on disk: XX

      maximum available contiguous chain (bytes):
      XX

      available space fragmentation (%): XX

      clusters allocated: XX

      Done Checking Disk.

              checks for PART_X OK!

              pmDosFsCheck is completed!
```

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

```
 System Date and Time now is:

        Day-Month-Year, Hour:Min:Sec

        Succession Enterprise Software/Database/
BOOTROM CDROM INSTALL Tool

        Does this System have a Signaling
Server.....? (Default - No)

        Please enter:

<CR> -> <n> - No

        <y> - Yes

        Enter Choice>
```

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

```
                M A I N    M E N U

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

        Please enter:

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

        <t> - To Tools menu.

        <q> - Quit.

        Enter Choice> <CR>

>Validating Keycode

 The provided keycode authorizes the install of
XXXXXXX software

  (all subissues) for machine type XXXX

  (XXX processor on XXXX System)
```

IMPORTANT!

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

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

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

        Please enter:

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

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

        Enter Choice> <CR>

     >Obtain database file names
```

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

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

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

        Please enter:

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

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

                For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> b
```

9 Verify the CD-ROM version.

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

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

        Please enter:

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

        <q> - Quit.

        Enter Choice> <CR>

The installation CDROM contains version XXXXXXX_X.

        Please enter:

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

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

        Enter Choice> <CR>

     >copying direct.rec from /cd0/0300_KMR.N33/
target/p/sl1/direct.rec to /u/direct.rec

        >Updating /u/direct.rec

Do you want to install Dependency Lists?

        Please enter:

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

       <n> - No, Continue without Dependency Lists
installation

        Enter choice> n
```

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

10 Choosing Yes for the Dependency Lists installation.

```
 Do you want to install Dependency Lists?

        Please enter:

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

       <n> - No, Continue without Dependency Lists
installation

        Enter choice>

The default choice is YES as shown in the prompt.

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

Are you sure?

      Please enter:

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

        <y> - Yes, Go to the next menu

Enter choice>

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

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

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

             INSTALLATION STATUS SUMMARY

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

 Option          Choice  Status       Comment

SW: CD to disk   yes           install for rel 400

Dependency Lists yes

Database         no

CP-BOOTROM       yes
```

```
 Please enter:

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

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

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

>Erasing old file "/u/patch/p12749_1.cpp"

>Erasing old file "/u/patch/reten/reten.pch"

>Erasing old file "/u/patch/deplist/m16000_3.cpp"

>Copying "/cd0/0400_UMR.N33/target/u/patch/
p12749_1.cpp" to "/u/patch/p12749_1.cpp"

>Copying "/cd0/0400_UMR.N33/target/u/patch/
deplist/m16000_3.cpp" to "/u/patch/deplist/
m16000_3.cpp"
```

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

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

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

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

Installation of DepList on an SSC system through software installation

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

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

The installation continues as below:

  INSTALLING NEW SOFTWARE AND FILES:
Erasing flash ROM
Installing new flash ROM software modules:
Programming: auxres
Programming: diskos
Programming: sl1res
Programming: ovlres
Programming: loadware
Programming: remupg
Calculating CRC-32 on flash ROM program store
Installing new directory record
Installing new files
Installing Dependency Lists
Building system loadware
Done.

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

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

For example:

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

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

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

11 Confirm all options before installing the software.

```
>Processing the Install Control file

      >Installing release XXXXX

                INSTALLATION STATUS SUMMARY

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

     =============+========+========+=============

 |     Option      |     Choice      | Status |   Comment          |

     =================+========+========+=========

 | SW: CD to disk |       yes        |          | install for rel XXXXX|

      =============+========+========+=============

 |     Option      |     Choice      | Status |   Comment          |

     =================+========+========+=========

 |    Database    |      yes        |        |                    |


 |     Option      |     Choice      | Status |   Comment          |

     =================+========+========+=========

 | CP-BOOTROM |      yes        |        |                    |


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

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

Enter Choice> <CR>

>Checking System Configuration

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

This will erase all old system files.
```

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

Please enter:

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

<q> - Quit.

Enter Choice> <CR>

>Starting Software Install

        >Upgrading from release XXXX to release
XXXXX
```

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

Select one of the six PSDL files

<1> Global 10 Languages

<2> Western Europe 10 Languages

<3> Eastern Europe 10 Languages

<4> North America 6 Languages

<5> Spare Group A

<6> Spare Group B

The languages contained in each selection are outlined as follows.

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

13 Continue with upgrade when prompted. Select a database to install. Confirm database transfer.

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

This will erase the database on the hard disk.

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

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

         Please enter:

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

<q> - Quit.

Enter Choice> <CR>
```

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

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

        Please confirm.

        Please enter:

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

        <n> - No, DO NOT load.

        Enter Choice> <CR>
```

14 The system restores the database and provides a status summary.

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

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

16 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
```

17 The system then prompts you to confirm and reboot.

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

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

Remove all disks from the system before rebooting.


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

        DO NOT REBOOT USING BUTTON!!!


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


        Please enter:

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

        <m> - Return to the Main menu.

        Enter Choice> <CR>

    >Removing (temporary files)




        >Rebooting system ...
```

Before completing the next procedure, wait for Core/Net 0 to INI.

End of Procedure

Verifying the upgraded database

Procedure 26
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 27
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 PII upgrade

Testing the Cores

Procedure 28
Testing Core/Net 1

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

From Core/Net 1, perform these tests:

1 Perform a redundancy sanity test:

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

2 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:

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

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

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

5 Clear the display and minor alarms on both Cores:

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

6 Test the clocks:

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

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

b. Verify that the Clock Controllers are switching correctly:

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

7 Test the Fiber Rings:

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

a. Check that the Fiber Rings operate correctly:

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

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

RSTR	Restore both Rings to HALF state

c. Check that the Rings operate correctly:

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

8 Check the status of the FIJI alarms:

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

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

10 Check dial tone.

End of Procedure

Switching call processing

Procedure 29
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 30
Testing Core/Net 0

From Core/Net 0, perform these tests:

1 Perform a redundancy sanity test:

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

2 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:

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

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

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

5 Clear the display and minor alarms on both Cores:

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

6 Test the clocks:

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

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

b. Verify that the Clock Controllers are switching correctly:

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

7 Test the Fiber Rings:

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

a. Check that the Fiber Rings operate correctly:

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

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

RSTR	Restore both Rings to HALF state

c. Check that the Rings operate correctly:

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

8 Check the status of the FIJI alarms:

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

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

10 Check dial tone.

End of Procedure

Performing a customer backup data dump (upgraded release)

Procedure 31
Performing a data dump to backup the customer database:

1 Log into the system.

2 Insert a floppy disc 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

The CS 1000M CP PII IGS upgrade to CS 1000M CP PII 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 32, "Verifying the presence of an NRS," on page 125 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 32
Verifying the presence of an NRS

1 Open Internet Explorer.

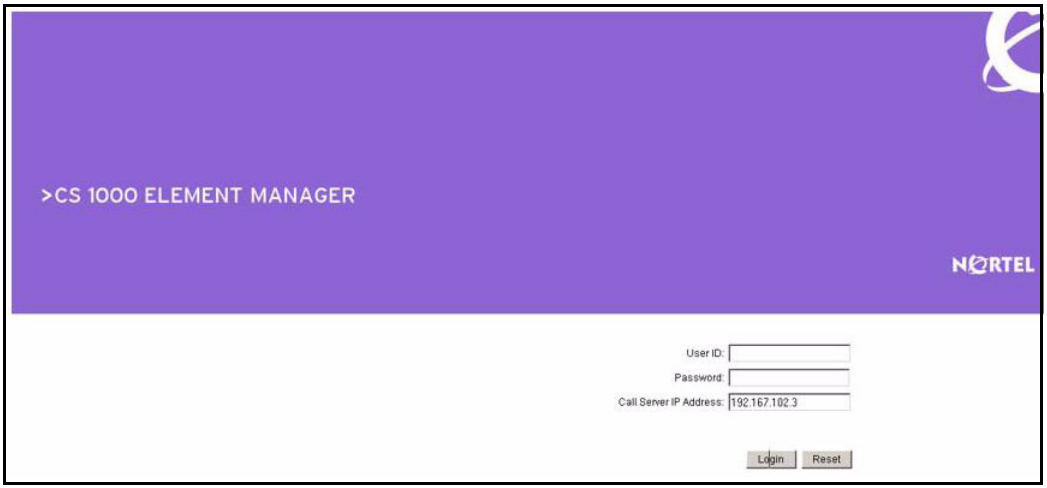
2 Enter the ELAN or TLAN network interface IP Address of the primary Signaling Server as the URL.

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 9
Element Manager logon page



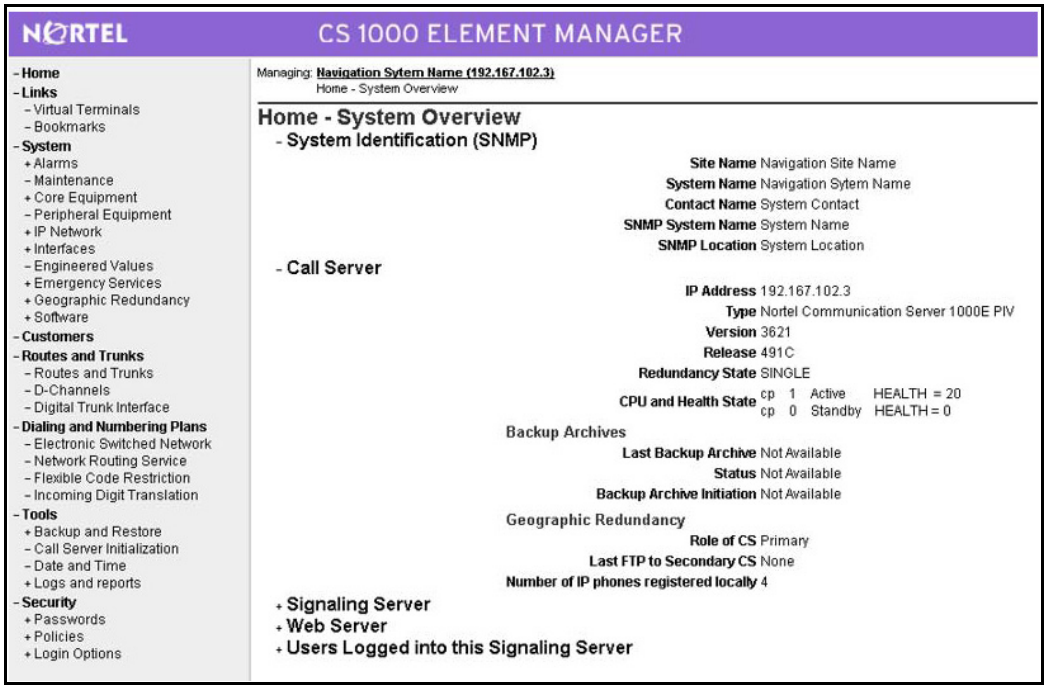
Initially, you can be prompted to enter the Call Server IP address, because the Call Server is used for web logon authorization. The Call Server IP address is a requirement, because unless you entered additional configuration parameters during the Signaling Server installation, the node configuration 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 10 on page 127).

Figure 10
Element manager: Home - System Overview

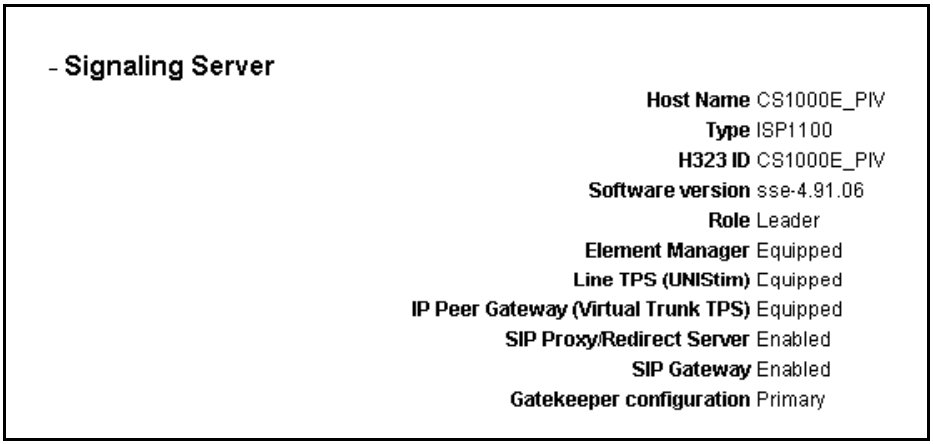


This screen identifies the components of your CS 1000 system.

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 11 on page 128).

Figure 11
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 33
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 12 on page 130).

Figure 12
VxWorks system boot

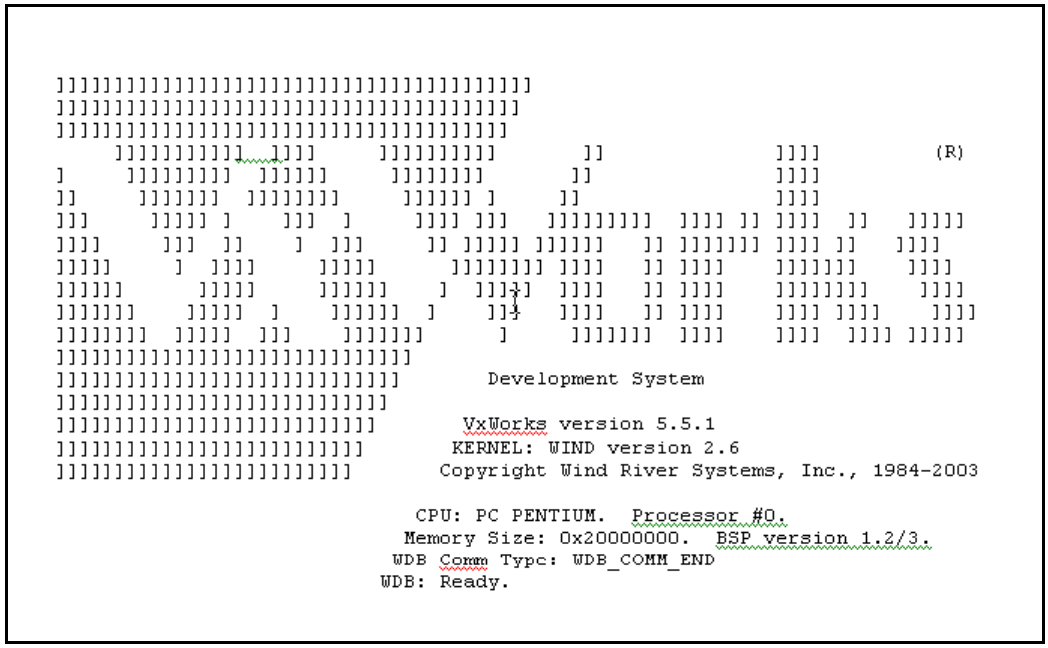
```
       VxWorks System Boot
Copyright 1984-2004 Wind River Systems, Inc.

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 13
VxWorks banner

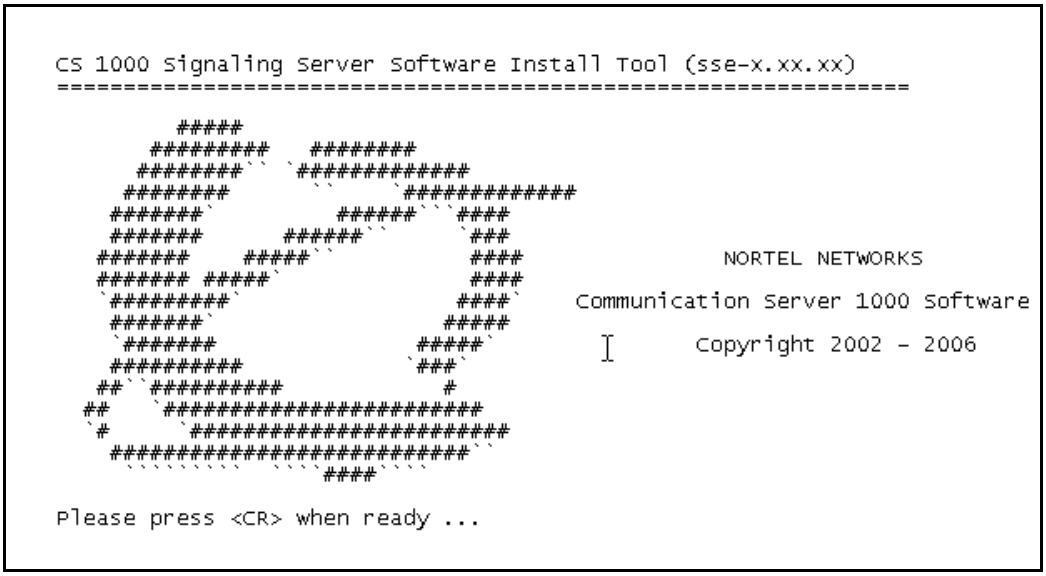


The following message appears:

```
/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 14
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 15: “System Information” on page 133):

Figure 15
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 141.

- 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 16
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 17
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 18
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 19: “Software upgrade start” on page 137)

Figure 19
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 20
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 21
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 22
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 23
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 24
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 25
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 26 on page 142).

Figure 26
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

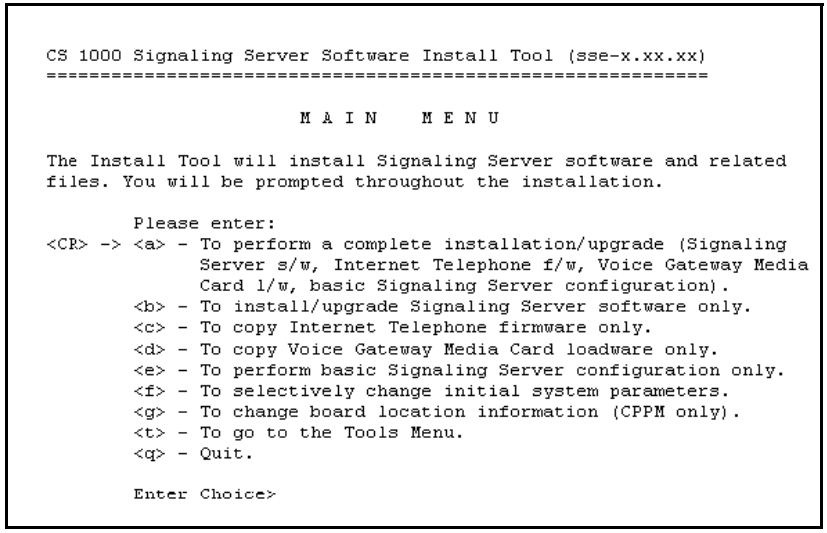
Release 5.0 Signaling Server software. Earlier releases of the Signaling Server software cannot be installed on these Signaling Servers.

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

Procedure 34
Re-installing the previous software release

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

Figure 27
Installation Tool Main Menu



The Tools Menu appears.

Figure 28
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 15
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 16
Upgrade details

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

Pre-upgrade checklists

Software Upgrade

Software audit

Table 17
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 18
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 19
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 20
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 20
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 21
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 22
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 22
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 23
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 24
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 24
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 25
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 25
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 26
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 27 on page 158 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 27
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 27
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 28 and 29 describe the service classifications.

Table 28
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 29
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 30 before you call for service.

Table 30
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 28 and 29)	
Description of assistance required	

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Nortel Communication Server 1000

Communication Server 1000M and Meridian 1

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

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Publication number: NN43021-472
Document release: Standard 01.01
Date: May 2007
Produced in Canada