Communication Server 1000M and Meridian 1

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

Avaya Communication Server 1000
Release 7.5

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Contents

New in this release

This chapter contains information about Avaya Communication Server 1000 (Avaya CS 1000) Release 7.5 new features.

Features

There are no updates to the feature descriptions in this document.

Other

See the following sections for information about changes that are not feature-related:

Revision history

September 2011

Standard 05.04. This document is up-issued to support the removal of content for outdated features, hardware, and system types.

September 2011

Standard 05.03. This document is up-issued to support the removal of content for outdated features, hardware, and system types.

November 2010

Standard 05.02. This document is published to support Avaya Communication Server 1000 Release 7.5.

November 2010

Standard 05.01. This document is issued to support Avaya Communication Server 1000 Release 7.5.

June 2010

Standard 04.02. This document is upissued to update the Avaya CS 1000M task flow graphic and to include CP PM version 2 content.

June 2010

Standard 04.01. This document is upissued to support Avaya Communication Server 1000 Release 7.0.

June 2009

Standard 03.03. This document is upissued to update the CP PM BIOS upgrade procedures.

May 2009

Standard 03.02. This document is upissued to include task flow graphics for Communication Server 1000 Release 6.0.

May 2009

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

November 2007

Standard 02.01. This document is issued to support Nortel Communication Server 1000 Release 5.5.

July 2007

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

June 2007

Standard 01.02. This document is upissued with corrections to requirements for CPI to 3PE cables.

May 2007

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

May 2006

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

January 2006

Standard 4.00. This document is upissued with corrections for various upgrade procedures.

August 2005

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

September 2004

Standard 2.00. This document is upissued for Communication Server 1000 Release 4.0.

October 2003

Standard 1.00. This document is a new document 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).

Customer service

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System information

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

Subject

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

This document also contains information about converting Release 3.0 or later software to Communication Server 1000 (Avaya CS 1000) Release 7.5 on Meridian 1 Options 51C, 61C, 81, 81C, Communication Server 1000M Single Group (CS 1000M SG) and Communication Server 1000M Multi Group (CS 1000M MG) systems. For software conversion procedures prior to Release 3.0, see the *Software conversion procedures* (553-2001-320) document for software Release 24.

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

Note on legacy products and releases

This document contains information about systems, components, and features that are compatible with Avaya CS 1000 software. For more information

about legacy products and releases, click the **Technical Documentation** link under **Support** on the Avaya home page:

www.avaya.com

Applicable systems

This document applies to the following systems:

- Communication Server 1000M Single Group

- Communication Server 1000M Multi Group

- Meridian 1 Option 61C

- Meridian 1 Option 81C

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

System migration

When particular Meridian 1 systems are upgraded to run CS 1000 Release 7.5 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 Option 61C	CS 1000M Single Group
Meridian 1 Option 81C	CS 1000M Multi Group

Signaling Server configuration

Meridian 1 Large Systems can be configured to run one or more Signaling Servers. The following Signaling Servers are supported in a Large System configuration for CS 1000 Release 7.5:

- CP PM Signaling Server

- Common Processor Dual Core (CP DC)

- Commercial off-the-shelf (COTS) Signaling Server

For more information, see "Installing a Signaling Server" on .

Upgrade paths

This document contains information about the following Large System upgrades:

- Meridian 1 Options 51C, 61C, 81C, CS 1000M SG, and CS 1000M MG

- upgrades to FNF

- software upgrades

- network additions

The upgrades documented in this document 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 Single Group (CS 1000M SG)

- Communication Server 1000M Multi Group (CS 1000M MG)

- Meridian 1 Option 51C

- Meridian 1 Option 61C

- Meridian 1 Option 81

- Meridian 1 Option 81C

The Common Processor Pentium Mobile, Common Processor Dual Core (CP DC), and Commercial off-the-Shelf (COTS) platforms are referred to as server.

Related information

> **CAUTION — Data Loss**
>
> Only personnel who are familiar with the system and with conversion procedures should perform the conversion.
>
> Read the applicable procedures carefully before beginning any the conversion.

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

> **CAUTION WITH ESDS DEVICES**
>
> To avoid damaging equipment from electrostatic discharge, wear a properly connected antistatic wrist strap when working on system equipment.

Perform pre-conversion and 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 *Avaya CS 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458) before performing any operations.
>
> It contains information vital to the conversion process.

Documents

The following documents are referenced in this document:

- *Avaya Product Compatibility* (NN43001-256)

- *Avaya Converging the Data Network with VoIP* (NN43001-260)

- *Avaya Circuit Card Reference* (NN43001-311)

- *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)

- *Avaya IP Peer Networking Installation and Commissioning* (NN43001-313)

- *Avaya Features and Services* (NN43001-106)

- *Avaya Software Input/Output: Administration* (NN43001-611)

- *Avaya Element Manager System Reference - Administration* (NN43001-632)

- *Avaya IP Trunk: Description, Installation, and Operation* (NN43001-563)

- *Avaya Signaling Server IP Line Applications Fundamentals* (NN43001-125)

- *Avaya ISDN Basic Rate Interface: Features* (NN43001-580)

- *Avaya Software Input/Output: Maintenance* (NN43001-711)

- *Avaya Communication Server 1000M and Meridian 1 Large System Planning and Engineering* (NN43021-220)

- *Avaya Communication Server 1000M and Meridian 1 Large System Installation and Commissioning* (NN43021-310)

- *Avaya Communication Server 1000M and Meridian 1 Large System Maintenance* (NN43021-700)

- *Avaya Communication Server 1000M and Meridian 1 Large System Upgrade NTPs* (NN43021-458 to NN43021-474)

Online

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Preparing and planning for the upgrade

Contents

This chapter contains the following topics:

Introduction

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

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

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

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

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

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

Procedure Step	Page
Planning	21
Upgrade Checklists	24
Preparing	24
Identifying the proper procedure	24
Connect a terminal	25
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Backing up the database (data dump)	29

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

Procedure Step	Page
Contact your System Administrator to identify two unique IP addresses before the upgrade.Making the RMD bootable	31
Transferring the database from floppy disk to CF (customer database media converter tool)	35
Identifying two unique IP addresses	41

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 about adding new network shelves, see *Avaya 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 Avaya Alerts that impact the site.

- Determine if software can be converted on site or must be sent to Avaya.

- Prepare a contingency plan for backing out of the upgrade.

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

Communication Server 1000 task flow

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

For more information refer to the following documents, which are referenced in Figure 1 on :

- *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)

- *Avaya Communication Server 1000M and Meridian 1 Large System Installation and Commissioning* (NN43021-310)

- *Avaya CS 1000M and Meridian 1 Large System Upgrades Overview* (NN43021-458)

Figure 1
Communication Server 1000M task flow
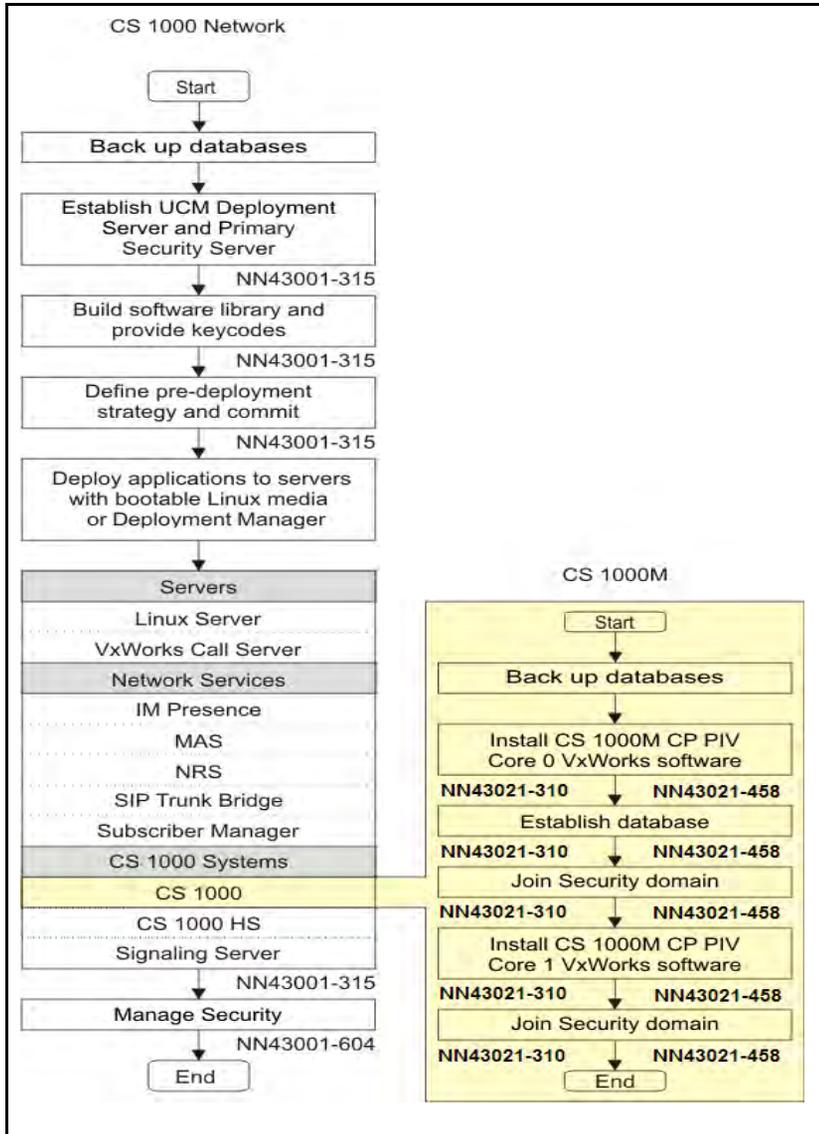
Upgrade Checklists

Upgrade checklists can be found in "Upgrade checklists" on . 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 *Avaya 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 system-patchable components.

- Determine required patches or DEP lists installed on applicable applications.

- 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). 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 Avaya CS 1000 Media Gateway 1000E (Avaya MG 1000E)
Note: Items marked with asterisks (*) are required printout for conversion. Other items are recommended for a total system status.		

Performing a template audit

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

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

> ⚠ **CAUTION — Service Interruption**
>
> **Loss of Data**
>
> Do not abort this overlay until the audit is complete. If the overlay is interrupted, data will be corrupted.

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

```
TEMPLATE AUDIT

STARTING PBX TEMPLATE SCAN

TEMPLATE 0001 USER COUNT LOW     CHECKSUM OK

TEMPLATE 0002 USER COUNT HIGH    CHECKSUM OK

TEMPLATE 0003 NO USERS FOUND


STARTING SL1 TEMPLATE SCAN

TEMPLATE 0001 USER COUNT OK      CHECKSUM OK

•

•

TEMPLATE 0120 USER COUNT OK      CHECKSUM OK

TEMPLATE AUDIT COMPLETE
```

Backing up the database (data dump)

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

1 Perform a data dump to save all system memory to the hard disk.

2 Perform a ABKO (attended backup) to save the database to a spare set of floppy disks.

Procedure 2
Performing a data dump

1   Log into the system.

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

   LD 43   Load program

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

   EDD   Begin the data dump

⚠️ **CAUTION**

Loss of Data

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

---

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

   ****   Exit program

——————————— **End of Procedure** ———————————

Making the RMD bootable

	CAUTION — Data Loss
⚠️	The PC utility used in the following procedure (mkbootrmd.exe) does not validate whether the drive letter entered is a valid RMD CF card. You must enter the correct RMD drive letter when prompted or risk formatting the incorrect drive. *Note:* This utility is supported by all versions of Microsoft Windows.

The installation RMD CF card must come preformatted and bootable from Avaya. Consumer CF cards are not bootable by default and must be made bootable as outlined in Procedure 3 on page 31.

Procedure 3
Making the RMD bootable

1   After downloading the software image file, unzip it to a directory on your PC.

2   Open the utilities folder.

3   Double click the mkbootrmd.bat file. Insert a blank 512 MByte CF card
     (see Figure 2).

Figure 2
mkbootrmd.bat
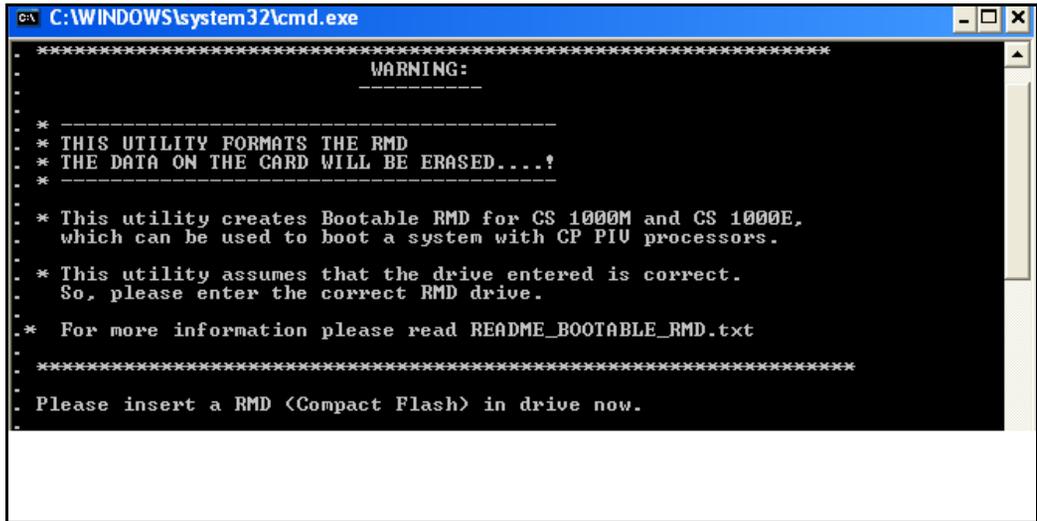
4   Enter the correct drive letter of the RMD (see Figure 3).

Figure 3
mkbootrmd.bat
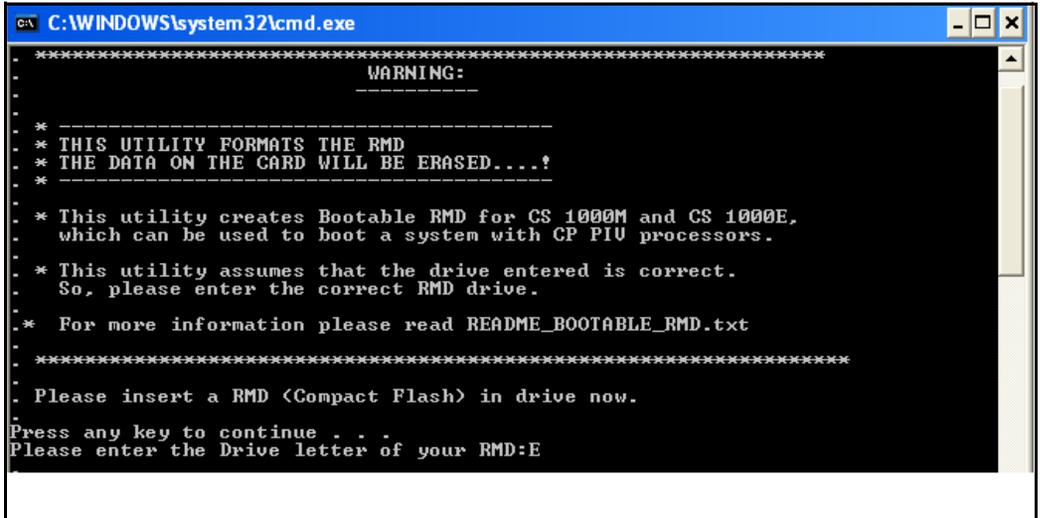

```
C:\WINDOWS\system32\cmd.exe                                            - □ ×
.  *****************************************************************
.                              WARNING:
.                              ----------
.
.  * ----------------------------------------
.  * THIS UTILITY FORMATS THE RMD
.  * THE DATA ON THE CARD WILL BE ERASED....!
.  * ----------------------------------------
.
.  * This utility creates Bootable RMD for CS 1000M and CS 1000E,
.    which can be used to boot a system with CP PIU processors.
.
.  * This utility assumes that the drive entered is correct.
.    So, please enter the correct RMD drive.
.
.*   For more information please read README_BOOTABLE_RMD.txt
.
.  *****************************************************************
.
.  Please insert a RMD (Compact Flash) in drive now.
.
Press any key to continue . . .
Please enter the Drive letter of your RMD:E
.
```

5   The boot sector files (bootrom.sys and nvram.sys) are successfully copied making the CF card bootable (see Figure 4).

Figure 4
Boot sector successfully installed


```
. RMD format Successful ...
.
. Installing Boot sector ...
.
. Copying files . . .
.
. bootrom.sys copied OK.
.
. Check whether the following output shows
. "All the specified file(s) are contiguous"
.
.          * * * WARNING * * *
.IF THE FILES ARE NOT CONTIGUOUS,
.    PLEASE RECREATE THE RMD
.          * * * * * * * * *
Press any key to continue . . .
The type of the file system is FAT.
Volume CS1000BOOT created 4/12/2006 12:22 PM
Volume Serial Number is 389E-1E98
Windows is verifying files and folders...
File and folder verification is complete.
Windows has checked the file system and found no problems.

  512,180,224 bytes total disk space.
      352,256 bytes in 1 files.
  511,827,968 bytes available on disk.

        8,192 bytes in each allocation unit.
       62,522 total allocation units on disk.
       62,479 allocation units available on disk.
All specified files are contiguous.
.
```

——————— **End of Procedure** ———————

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

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

The floppy disk that contains the backed up customer database needs to be transferred to a CF card. This procedure converts the customer CS 1000 Release 7.5 software upgrade later in this section. Avaya recommends using the extra CF card included with the Software Install Kit.

Procedure 4
Transferring the customer database from floppy disk to CF

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

1   Insert the floppy disk containing the backed up customer database from Procedure 2 on page 30.

2   Insert a CF card (there is one included in the Software Install Kit) into the CF reader or PCMCIA CF adapter.

3   Start the Database Media Converter utility. The first screen (Figure 5 on page 36) prompts you to select the correct drive letter for the floppy disk drive.

Figure 5
Select the floppy disk drive

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

Figure 6
Insert diskette 1

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

Figure 7
Select the CF drive

6   At this point, 2 options are available:

   a.   If the CF card already contains a previously backed-up database, a
        dialog box appears (see Figure 8 on page 39). Click yes to replace
        old database.

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

Figure 8
Replace database on CF drive

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

Figure 9
Copy another or exit

—— **End of Procedure** ——

Identifying two unique IP addresses

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

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

Check requirements for CNI to 3PE cables (NTND14)

> **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 manufacturer discontinued.

Performing the upgrade

Contents

This chapter contains the following topics:

Introduction

The target upgrade to Avaya Communication Server 1000M (Avaya CS1000M) MG CP PIV FNF must meet the requirements of Product Bulletins P2002-1658-NA, PAA-2003-0199-NA, and 2000-047 rev1. Highlights include:

• PB requires NTRB53AA Clock Controller

• NT5D12AC, AD, and AG (1.54MB) support

- NT5D97AB, AD (2.0 MByte) support

- Both NTRC46 cables must be the same length

> **IMPORTANT!**
>
> The shortest Fiber Cable must always be used.
>
> The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.
>
> The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.
>
> *Note:* When adding an additional network group, fiber cables must be changed to adhere to the rules above.

> **IMPORTANT!**
>
> When configuring NTND14 cables, observe the following rules:
>
> - The shortest NTND14 Cable should always be used.
>
> - A network group requires 4 NTND14 cables, 2 to each half group. Both cables to each half group must be the same length.
>
> - A check should be made on the existing NTND14 cables. Replace any cables that do not meet the above requirement.
>
> *Note:* The NTND14 BX 50' cables are manufacture discontinued.

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

- Clock Controller cards must be NTRB53AA.

- NTRB33 Fiber Junctor Interface (FIJI) card and the NTRE39 Optical Cable Management Card (OCMC) are added for FNF.

For information about upgrading and configuring the Signaling Server, see "Installing a Signaling Server" on

Reviewing upgrade requirements

Check software received

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

- CORENET Core Network Module Package 299

- CPP_CNI CP Pentium Backplane for Intel Machine Package 368

- FIBN Fiber Network Package 365

Compact Flash Software Install Kit contains the following items:

- One CF (512 MByte) card containing:

  — Install Software files

  — CS 1000 Release 7.5 software

  — Dep. Lists (PEPs)

  — Key code File

- One blank CF card for database backup

- One Avaya CS 1000 Release 7.5 Documentation CD

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

Check equipment received

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

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

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

Check vintage requirements for existing hardware

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

* The NT4N65AC cCNI card must be minimum vintage of AC.

* The NT4N48 System Utility card must be minimum vintage AA.

* The QPC441 3-Port Extender (3PE) cards must be minimum vintage F.

* The NTRB53 Clock Controller cards must be minimum vintage AA.

* The existing QPC471 Clock Controller cards must be minimum vintage
  H or the QPC775 Clock Controller cards (all countries except USA) must
  be minimum vintage E.

* NT6D41CA (DC) Power Supply

* NT8D29BA (AC) Power Supply

* The QPC43 Peripheral Signaling cards must be minimum vintage R.

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

CAUTION

Service Interruption

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

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

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

Order number	Description	Quantity per system
NT4N39	CP PIV Call Processor Card (512 MByte memory)	2
N0026096	MMDU replacement faceplate	2
NTRB33AD/ NTRB33BBE5	Fiber Junctor Interface (FIJI) Card	Determined by system configuration
NTRC46BB	Clock - FIJI Cable (1.7M - 2.4M (5.5 ft - 8 ft))	2
NTRC47AA	FIJI - FIJI Sync Cable	Determined by system configuration
NTRC48XX	FIJI Fiber Ring Cable (2M (6 ft.))	Determined by system configuration
NTRE40AA	Dual Ethernet Adapter (RJ-45) for I/O Panel	2

Check required power equipment

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

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

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

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

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

Check required tools

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

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

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

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

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

Verifying CP PIV hardware

Figure 10 on shows the CP PIV processor card side view. Figure 11 on shows the CP PIV processor card front view.

Figure 10
CP PIV call processor card (side)
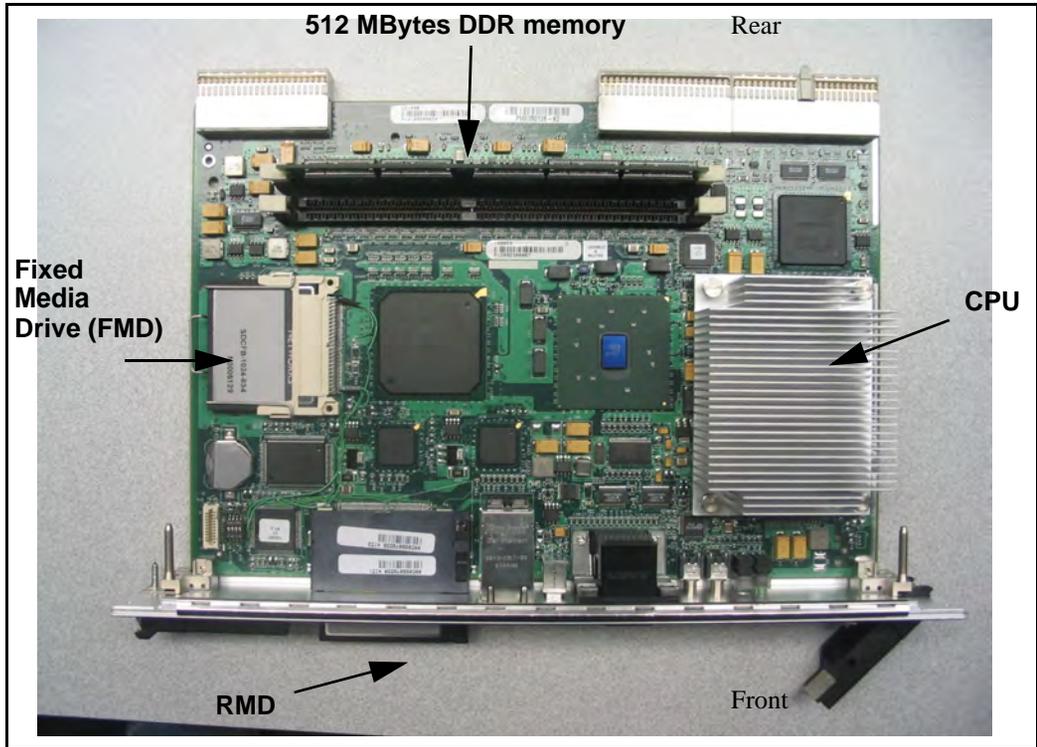
Figure 11
CP PIV call processor card (front)
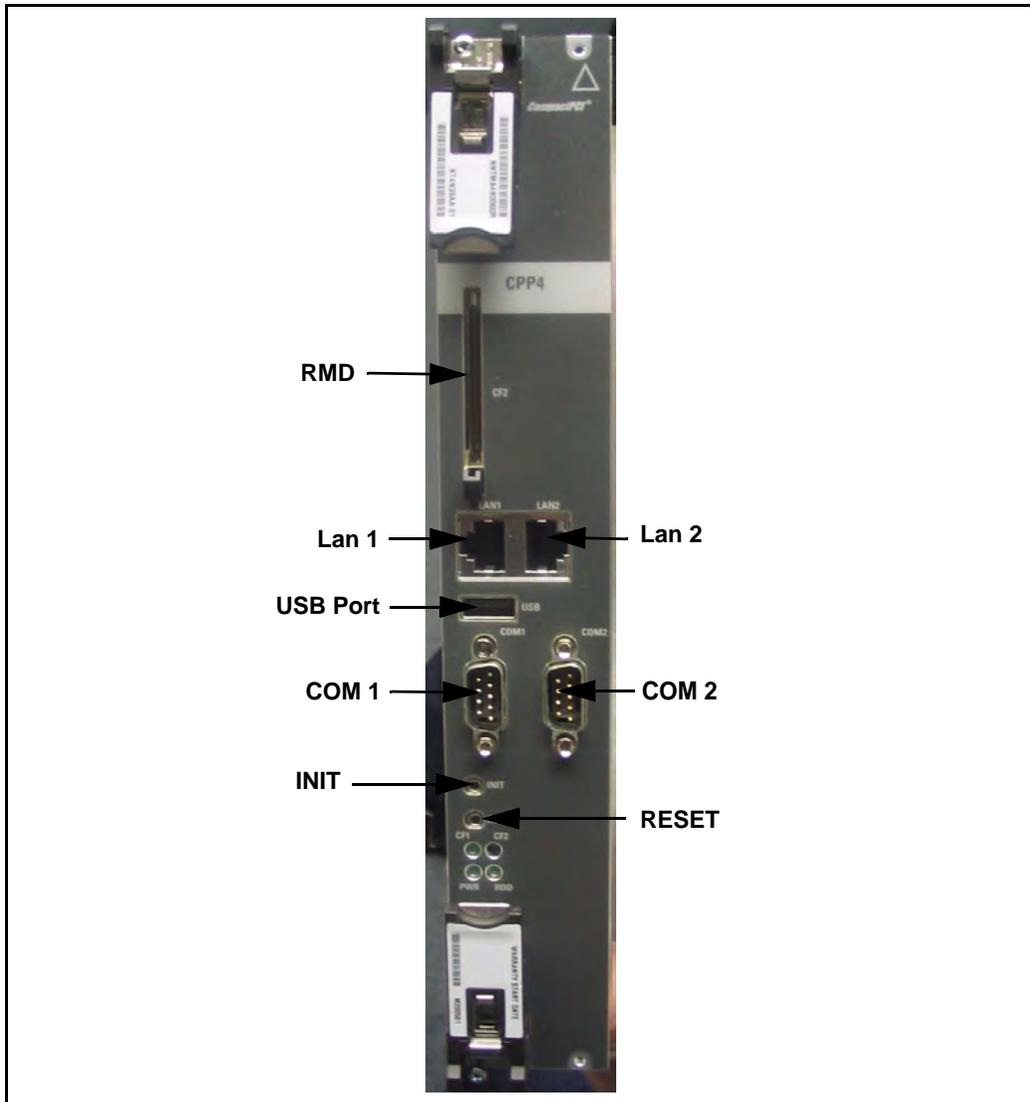
Figure 12
CP PIV NT4N41 Core/Net Module
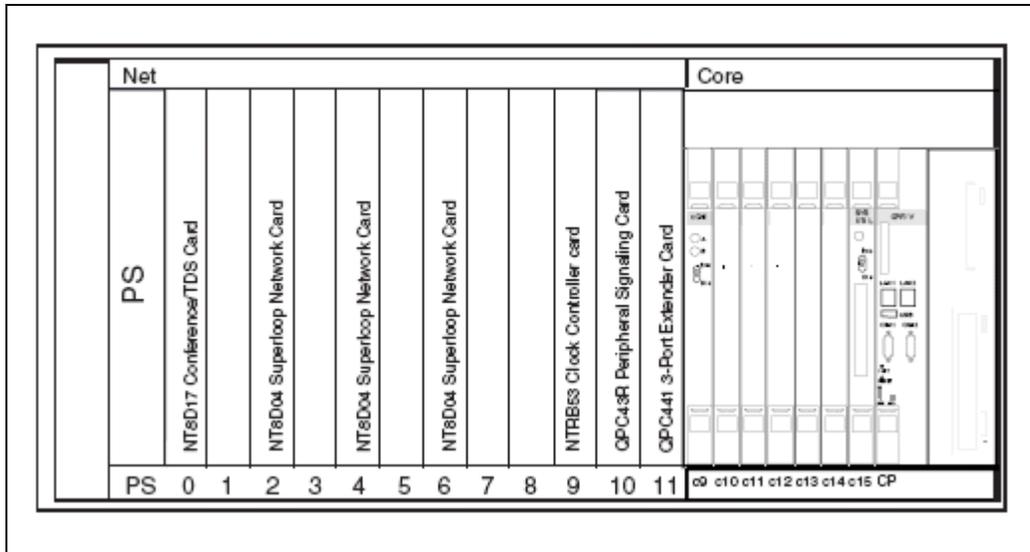
Verifying CP PIV card location

The NT4N39 CP PIV card is located in the Call Processor slot (see Figure 13 on).

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

Figure 13
CP PIV Card location
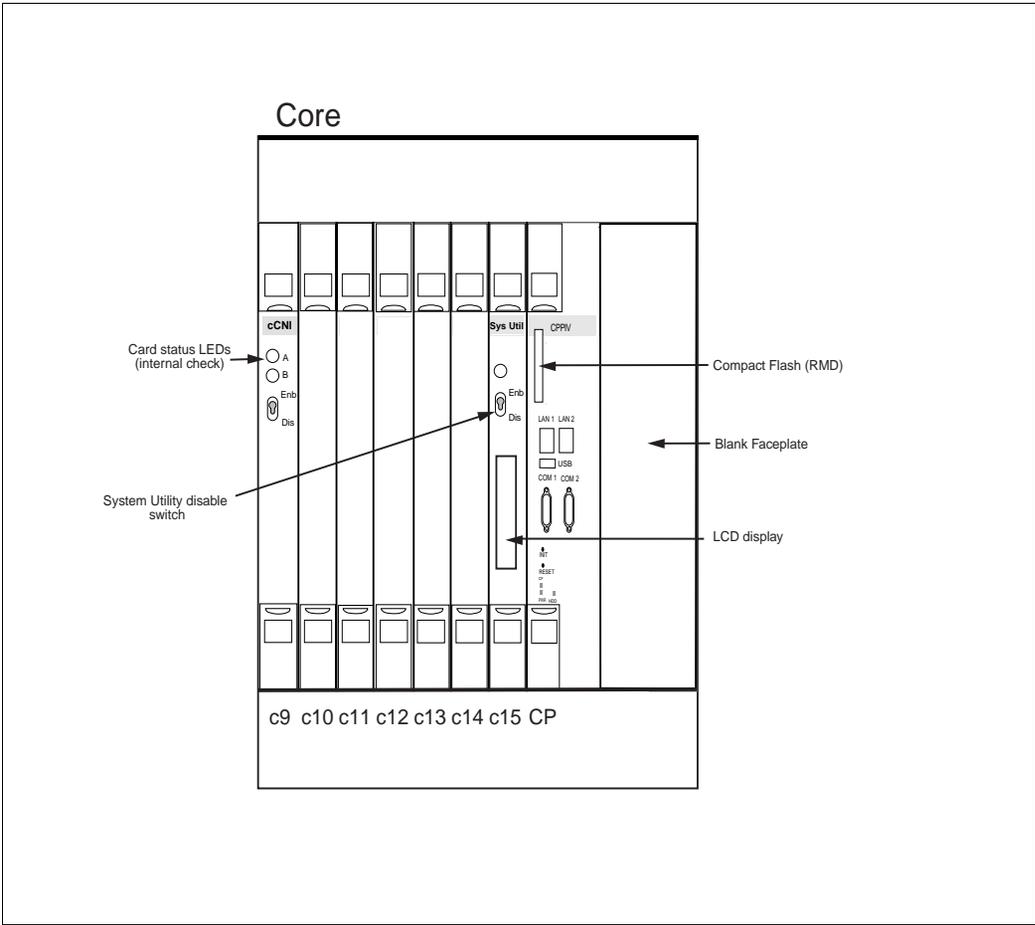
Upgrading Core 1

Procedure 5
Checking that Core 0 is active

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

1   Verify that Core 0 is active.

   LD 135   Load program

   STAT CPU   Obtain status of the CPUs

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

   SCPU   Switch to Core 0 (if necessary)

   ****   Exit program

———————— **End of Procedure** ————————

Procedure 6
Checking that Clock Controller 0 is active

1   Check the status of the Clock Controllers:

   LD 60   Load program

   SSCK 0   Obtain the status of Clock Controller 0

   SSCK 1   Obtain the status of Clock Controller 1

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

   SWCK   Switch to Clock Controller 0 (if necessary)

   DIS CC 1   Disable Clock Controller 1

   ****   Exit the program

3   Faceplate disable Clock Controller 1.

———————— **End of Procedure** ————————

Disable IGS

Procedure 7
Disable IGS

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

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

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

Table 8
Shelf 1 IGS/DIGS card locations

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

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

──────── **End of Procedure** ────────

Procedure 8
Splitting the Cores

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

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

2   Hardware disable all CNI cards in Core 1.

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

──────── **End of Procedure** ────────

Procedure 9
Verifying settings for a QPC441 3PE Card

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

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

    b.   Check that the RN27 Jumper is set to "A".

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

c. The settings for 3PE cards in Core/Net shelves are different from those in all other shelves: Table 9 shows the 3PE settings for cards installed in CP Core/Net Modules.

Table 9
QPC441 3PE Card installed in the NT4N40 Module

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

——————————— **End of Procedure** ———————————

Removing Core 1 CP PII card and MMDU

Procedure 10
Removing the Core 1 CP PII processor and MMDU

1   Disconnect and label the LAN1 and LAN 2 cables from the Core 1 CP PII card faceplate. See Figure 14.

Figure 14
CP PII faceplate connections
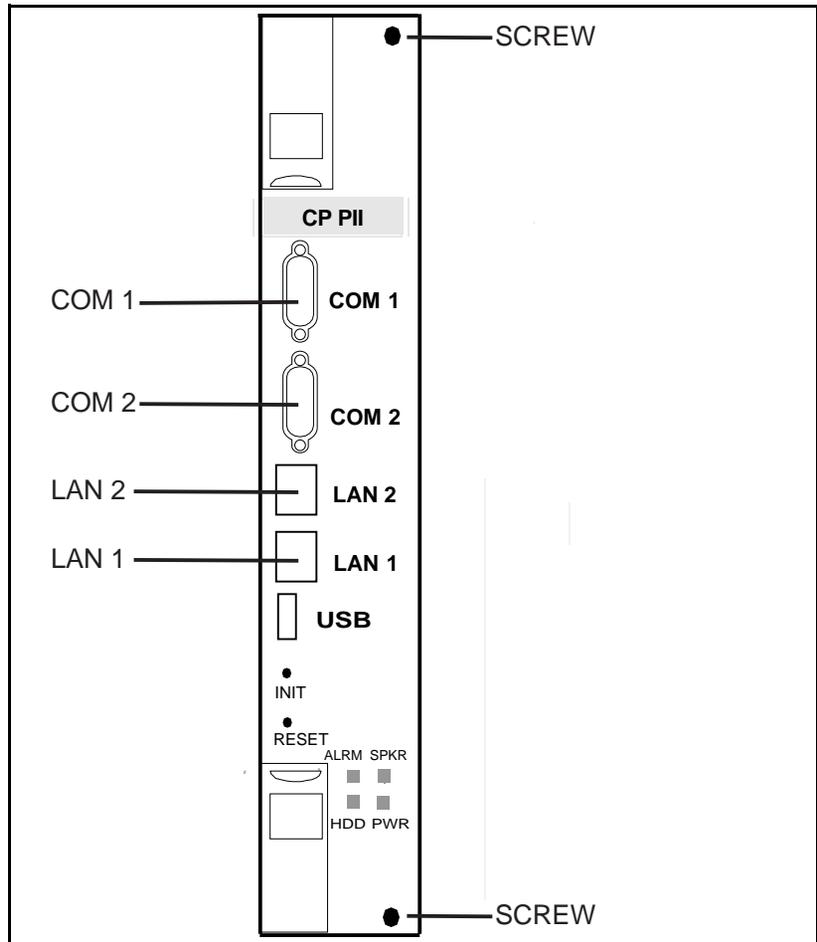
2   Disconnect and label the COM 1 and COM 2 cables from the Core 1 CP PII card faceplate. See Figure 14 on page 58.

3   Unscrew and unlatch the Core 1 CP PII card. See Figure 14 on page 58.

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

5   Remove the rear access plate on the left side of the Core 1 module. See Figure 15 on page 59.

Figure 15
NT4N46 Core/Net module

Power connector
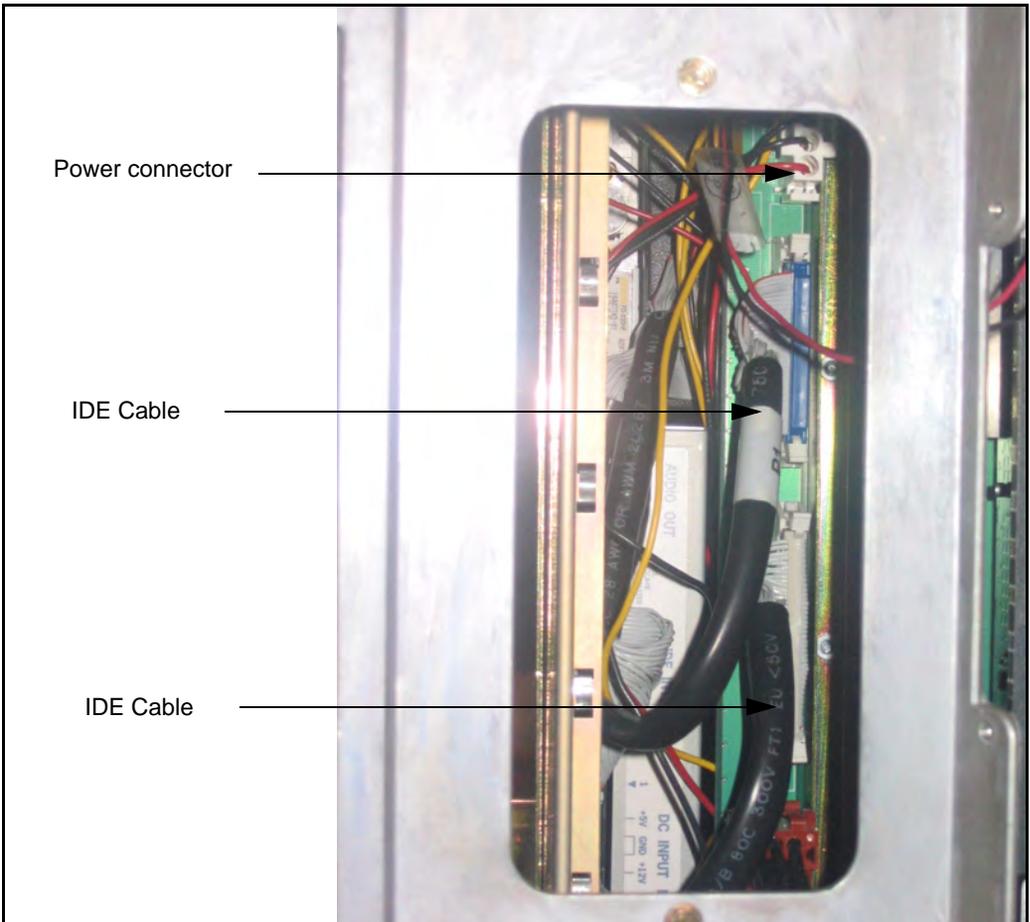
IDE Cable

IDE Cable

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

7   From the rear access point of the Core 1 shelf (, remove the two IDE cables from the backplane. See Figure 15 on .

8   Unscrew the MMDU from the front of Core 1.

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

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

IMPORTANT!

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

———————— **End of Procedure** ————————

Installing Core 1 CP PIV card and blank faceplate

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

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

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

3   Attach the COM 1 and COM 2 cables to the CP PIV card faceplate. See Figure 16 on .

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

Figure 16
CP PIV faceplate connections
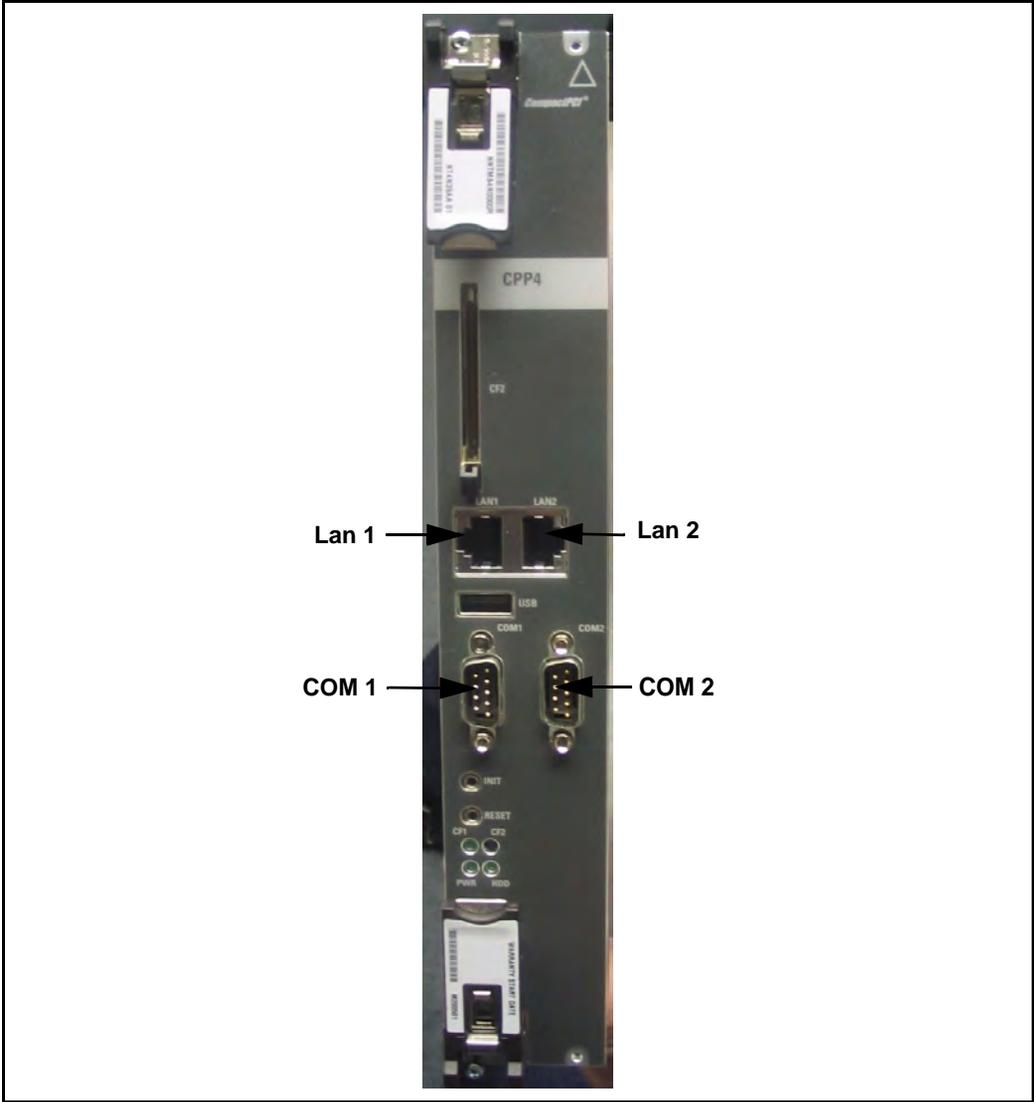
5   Do not attach the LAN 1 and LAN 2 cables to the CP PIV card faceplate at this point in the upgrade. These cables are attached once both Cores are upgraded.

—————————— **End of Procedure** ——————————

Adding Side 1 FIJI hardware

Procedure 12
Adding Side 1 FIJI hardware

Perform 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: Double slot FIJI cards install in slots 2 and 3 of the Network modules, and slots 8 and 9 of the Core/Net modules. Single slot FIJI cards (with vintages later than NTRB33BBE5) install in slot 2 of the Network modules, and slot 9 of the Core/Net modules.

Procedure 13
Connecting the shelf 1 FIJI Ring cables (descending)

> ⚠️ **IMPORTANT!**
>
> The shortest Fiber Cable must always be used.
>
> The cables from group 0 to group 1 must always be the same length as the cables from the last group back to group 0.
>
> The distance between the lengths of each fiber ring from group 0 to any other group must not exceed 50'. Rings are directional. Ring 0 is ascending and ring 1 is descending.
>
> *Note:* When adding an additional network group, fiber cables must be changed to adhere to the rules above.

Create Fiber Ring 1. Connect the FIJI cards in all Network shelves 1 in **descending** order, from Tx to Rx (see Figure 17 on and Table 10 on).

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

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

1   Start with Network group 0, shelf 1.

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

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

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

Figure 17
Shelf 1 *descending* fiber optic Ring (Meridian 1 Option 81C 5 group example)
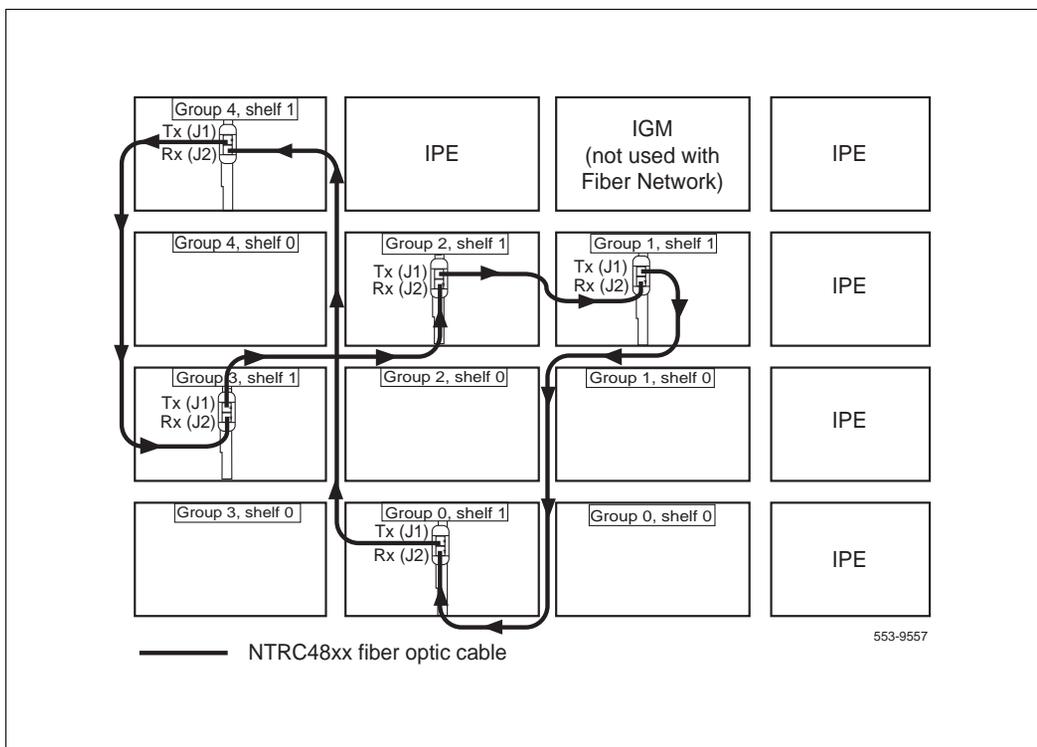
5   To complete the Ring, connect a final cable from Tx in **Group 1, shelf 1** to Rx in Group 0, shelf 1.

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

Table 10
FIJI Ring 1 connections

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

———————   **End of Procedure**   ———————

Figure 18
Shelf 1 des*cending* fiber optic Ring (Meridian 1 Option 81C 2 group example)

Group 1, shelf 1
Tx (J1)
Rx (J2)

Group 1, shelf 0
Tx (J1)
Rx (J2)

Group 0, shelf 1
Tx (J1)
Rx (J2)

Group 0, shelf 0
Tx (J1)
Rx (J2)

NTRC48 fiber optic cable

553-9557b
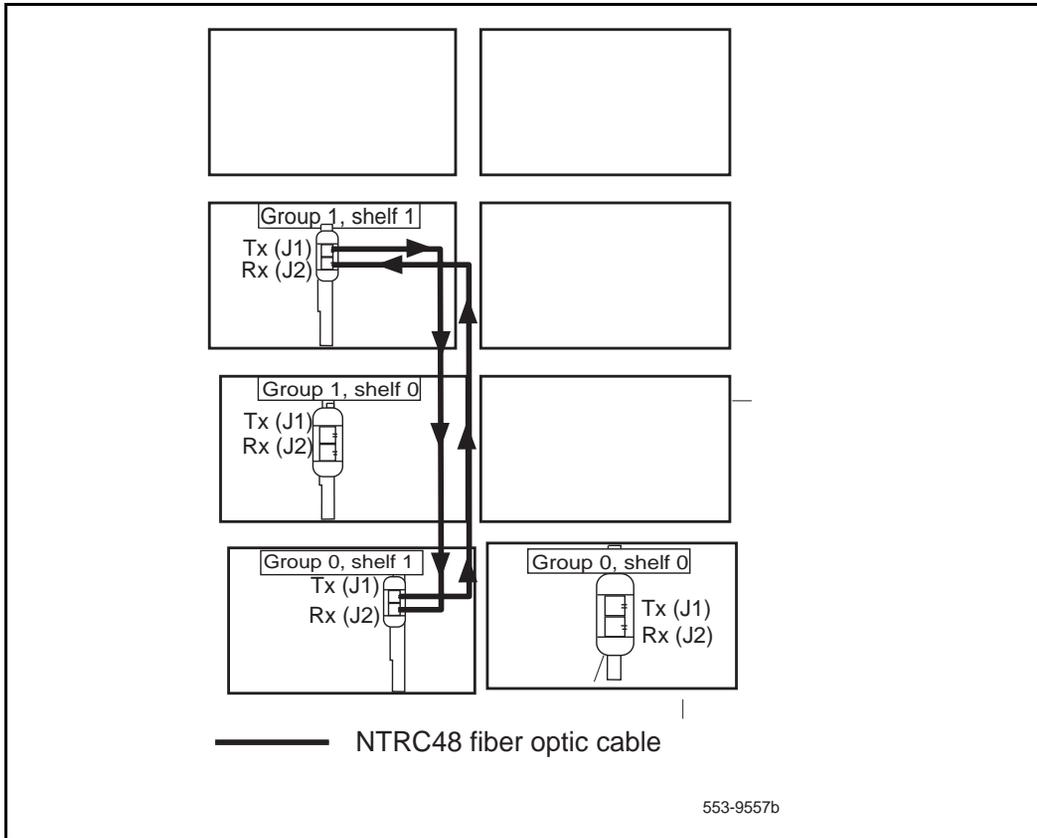
Cable the Clock Controller 1 to FIJI

Procedure 14
Cable the Clock Controller 1 to FIJI hardware

Connect the cables to the Clock Controller 1 as shown in Figure 19 on .

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 19
Clock Controller cable configuration

553-9496
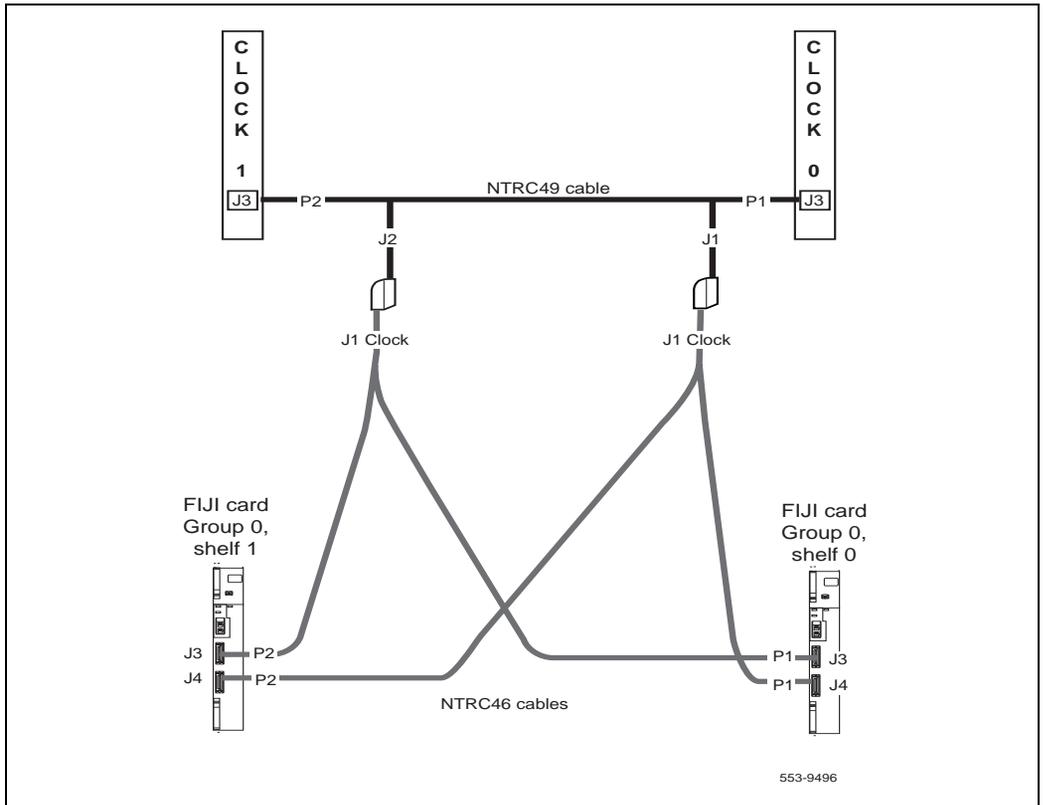
CS 1000 Release 7.5 upgrade

Upgrading the software

Procedure 15 outlines the steps involved in installing CS 1000 Release 7.5 for the CP PIV processor.

Procedure 15
Upgrading the software

1   Check that a terminal is now connected to COM 1port in CP 1. The settings for the terminal are:

   a.   Terminal type: VT100

   b.   9600 Baud

   c.   Data bits: 8

   d.   Parity: none

   e.   Stop bits: 1

   f.   Flow control: none

2   Insert the RMD into the CF card slot on Call Processor 1 (inactive).

3   Perform a KDIF in LD 143.

4   Press the manual RESET button the Call Processor 1 (inactive) card faceplate.

5   Call up the Software Installation Program during a SYSLOAD. During SYSLOAD, the following prompt appears:

```
Read boot parameters from:

  F: Faceplate compact flash

  H: Hard Drive

  0 [H]
```

   Press F to boot from the compact flash (which contains the software).

For the CP PIV upgrade, the **F** must be in uppercase.

---

6   Enter <CR> at the Install Tool Menu.

Note: Blank CF prompts begin here.

```
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys

                    Selecting nvram file from 2
sources
Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive

 10 [F]

Press <CR> when ready

Reading boot parameters from /boot/nvram.sys

Press any key to stop auto-boot...
```

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




                                 Avaya
             Communication Server 1000 Software

                     Install Tool version 29

                       Copyright 1992 - 2007



                 Please press <CR> when ready ...

 *************************************************************************
  WARNING:

  This software does not support TNs configured on PE/EPE
  shelves. Upgrading to this software release will permanently
  disable all TNs configured on PE/EPE and will not allow new
  TNs to be configured.

  Proceed with the upgrade? (Y/N) y

 *************************************************************************
  WARNING:

  Upgrading from pre-Release 4.5 software to Release 4.5 or higher
  will result in the system PDT passwords being reset to default.

  Proceed with the upgrade? (Y/N) y
```

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

```
        M A I N    M E N U

The Software Installation Tool will install or
upgrade Avaya Communication Server 1000
Software, Database and the CP-BOOTROM. You will
be prompted throughout the installation and
given the opportunity to quit at any time.

Please enter:

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

        <t> - To Tools menu.

        <q> - Quit.

        Enter Choice> <u>
```

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

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

No keycode files are available on the removable
media.

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

Please enter:

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

        <q> - Quit.

        Enter choice>
```

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

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

================================================
====================
You selected to quit. Please confirm.

Please enter:

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

        <n> - No, DON'T quit.

        Enter choice>
```

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

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

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

Name                      Size    Date      Time

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

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

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

<q> - Quit

Enter choice> 2
```

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

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

```
Validating keycode ...

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

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CP PIV processor on <system>).
```

Note: The software release displayed depends on the keycode file content. The system requests keycode validation.

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

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

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

Please enter:

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

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

Enter choice>
```

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

Note: Option A uses the existing db from the FMD. External database backup is Option B.

```
Avaya Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool
==============================================
I N S T A L L    M E N U

        The Software Installation Tool will
install or upgrade Avaya Communication Server 1000
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

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

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

             For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> <a>
```

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

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

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

Please enter:

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

        <q> - Quit.

Enter choice> <CR>
```

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

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

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

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

The RMD contains System S/W version xxxx.

Please enter:

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

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

Enter choice> <CR>
```

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

13 Choosing Yes for the Dependency Lists installation.

Note: If Dependency Lists are not installed on media, the following prompts do not appear. Proceed to step 14 on .

```
Do you want to install Dependency Lists?

          Please enter:

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

        <n> - No, Continue without Dependency Lists installation

        Enter choice>

        The default choice is YES as shown in the prompt.

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

        Are you sure?

        Please enter:

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

        <y> - Yes, Go to the next menu

        Enter choice>

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

Enable Automatic Centralized Software Upgrade (CSU) Feature?

Please enter:

<CR> -> <y> - Yes

        <n> - No

        Enter choice>
```

14 Select to enable/disable CSU option.

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

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

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

```
  Set Automatic Centralized Software Upgrade Mode to:

           Please enter:

 <CR> -> <1> - Sequential

         <2> - Simultaneous

          Enter choice>

 >Processing the install control file ...

 >Installing release 0600x
```

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

```
*************************************************
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
Avaya 3900 Series Digital Deskphones sets.

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

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

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

>Copying new PSDL ...
```

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

17 Enter <CR> to confirm and continue upgrade.

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

```
 Please enter:

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

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


        Enter choice>

>Checking system configuration

You selected to upgrade Software release: XXXX to
release: xxxx. This will erase all old system
files.

This will  create  all  necessary  directories and
pre-allocate files on the hard disk.

You  may continue  with software  upgrade or quit
now and leave your software unchanged.

Please enter:

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

        <q> - Quit.

        Enter choice>

```

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

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

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

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.


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

19 Press "Enter" after checking the Installation summary.

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

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

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

        Please enter:

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

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

        <c> - To install Database only.

        <d> - To install CP-BOOTROM only.

        <t> - To go to the Tools menu.

        <k> - To install Keycode only.

             For Feature Expansion, use OVL143.

        <p> - To install 3900 set Languages.

        <q> - Quit.

        Enter Choice> q
```

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

```
You selected to quit. Please confirm.

    Please enter:

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

        <n> - No, DON'T quit.


        Enter choice> <CR>

You selected to quit the Install Tool.

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




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

        DO NOT REBOOT USING RESET BUTTON!!!


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


        Please enter:

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

        <m> - Return to the Main menu.

        Enter Choice> <CR>

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

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

>Rebooting system ...
```

At this point the system reloads and initializes.

———————————— **End of Procedure** ————————————

Verifying the upgraded database

Procedure 16
Verifying the upgraded database

1   Print ISSP (system software issue and patches)

   LD 22   Load program

   REQ   ISSP

   ****   Exit program

2   Print the system configuration record in LD 22 and compare the output
    with the preupgraded configuration record.

   LD 22   Load program

   REQ   PRT

   TYPE   CFN

   ****   Exit program

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

   LD 22   Load program

   REQ   SLT

   ****   Exit program

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

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

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

———— **End of Procedure** ————

Check for Peripheral Software Download to Core 1

Enter LD 22 and print Target peripheral software version. The Source peripheral software version was printed in "Printing site data" on page 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

Reconfigure I/O ports and call registers

Procedure 17
Reconfiguring I/O ports and call registers

1   Evaluate the number of call registers and 500 telephone buffers that are configured for the system (suggested minimum values are 20,000 and 1000 respectively). see *Avaya 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.

Procedure 18
Rebooting Core 1

	CAUTION
⚠	**Service Interruption**
	The INI may take up to 15 minutes to complete.

	CAUTION
⚠	**Service Interruption**
	Call processing is interrupted for approximately 60 minutes while the procedures are completed.

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

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

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

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

4 Faceplate disable Clock Controller 0 and unseat the card.

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

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

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

	CAUTION
⚠	**Service Interruption**
	Allow the system to recover from all downloads after the INI completes.

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

───────────── **End of Procedure** ─────────────

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

Testing Core/Net 1

Procedure 19
Testing Core/Net 1

1   Check dial-tone.

2   Stat D-channels:

    LD 96

    STAT DCH   Stat all D-channels

    ****   Exit program

3   Stat all T1 interfaces:

    LD 60

    STAT   Stat all DTI and PRI

    ****   Exit program

4   Stat network cards:

    LD 32

    STAT x   x = loop number

    ****   Exit program

5   Print status of all controllers:

   LD 97

   REQ   PRT

   TYPE   XPE (returns status of all controller cards)

   ****   Exit program

6   Make internal, external and network calls.

7   Check attendant console activity.

8   Check DID trunks.

> Call processing should be active on Core/Net 1.

———   **End of Procedure**   ———

Upgrading Core 0

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

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

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

——————————— **End of Procedure** ———————————

Table 11
Shelf 0 IGS/DIGS card locations

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

Removing Core 0 CP PII card and MMDU

Procedure 21
Removing the Core 0 CP PII processor and MMDU

1   Disconnect and label the LAN1 and LAN 2 cables from the Core 0 CP PII card faceplate. See Figure 20 on page 91.

2   Disconnect and label the COM 1 and COM 2 cables from the Core 0 CP PII card faceplate. See Figure 20 on page 91.

3   Unscrew and unlatch the Core 0 CP PII card. See Figure 20 on page 91.

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

5   Remove the rear access plate on the left side of the Core 0 module. See Figure 21.

Figure 20
CP PII faceplate connections
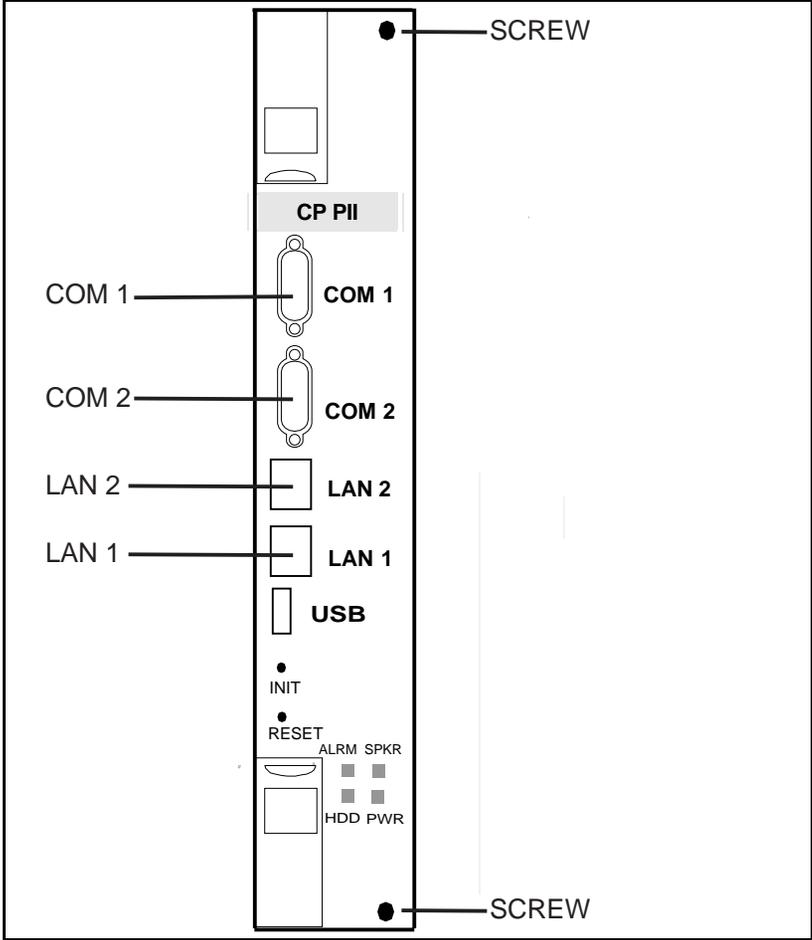
Figure 21
NT4N46 Core/Net module

Power connector
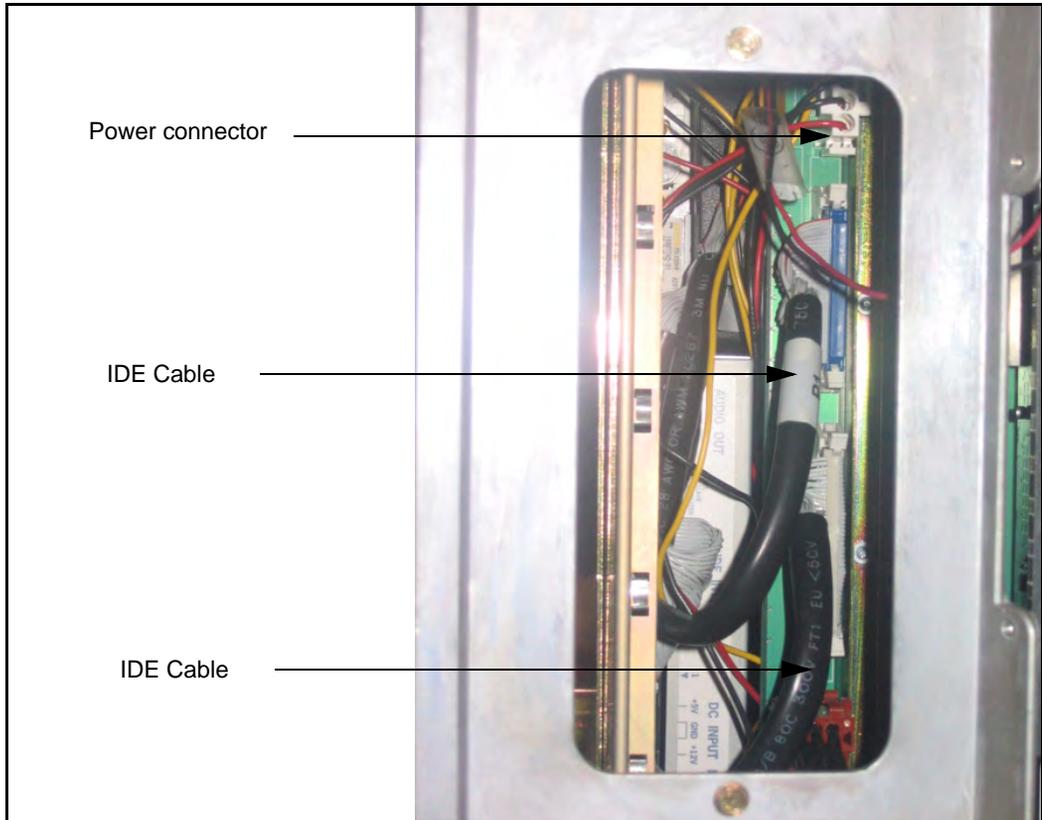
IDE Cable

IDE Cable

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

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

8   Unscrew the MMDU from the front of Core 0. See Figure 21 on page 92.

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

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

IMPORTANT!

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

———— **End of Procedure** ————

Installing Core 0 CP PIV card and blank faceplate

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

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

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

3 Attach the COM 1 and COM 2 cables to the CP PIV card faceplate. See Figure 22 on .

Figure 22
CP PIV faceplate connections
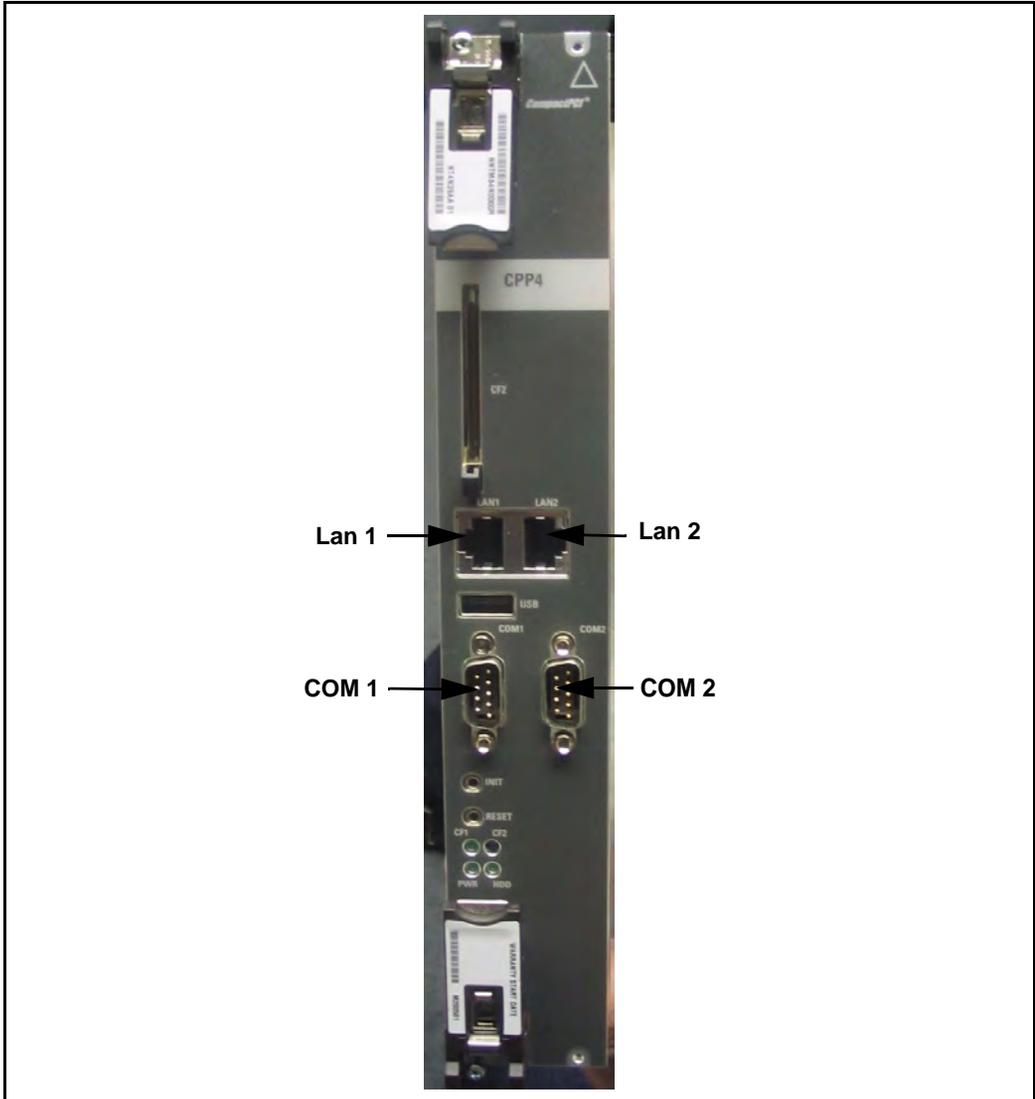
4   Attach the LAN 1 and LAN 2 cables to the CP PIV card faceplate at this point in the upgrade.

———————— **End of Procedure** ————————

Add Side 0 FIJI hardware

Procedure 23
Install Side 0 FIJI cards

1   Unpack the FIJI cards (NTRB33).

2   Faceplate-disable the NTRB33 cards.

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

Note: Double slot FIJI cards install in slots 2 and 3 of the Network modules, and slots 8 and 9 of the Core/Net modules. Single slot FIJI cards (with vintages later than NTRB33BBE5) install in slot 2 of the Network modules, and slot 9 of the Core/Net modules.

———————— **End of Procedure** ————————

Procedure 24
Connect the FIJI to FIJI cables

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

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

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

———————— **End of Procedure** ————————

Figure 1
FIJI shelf 0 to FIJI shelf 1 connections

NTRC47AA FIJI to FIJI cables
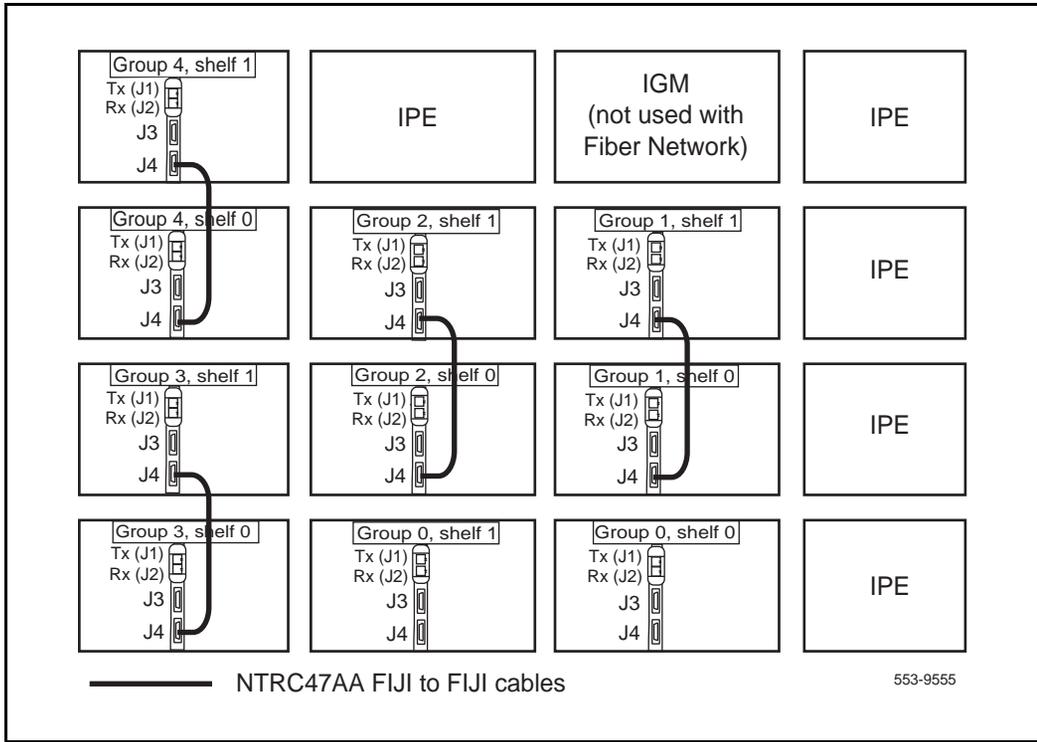
Procedure 25
Connecting the shelf 0 FIJI Ring cables (ascending)

Create Fiber Ring 0. Connect the FIJI cards in all Network shelves 0 in **ascending** order, from Tx to Rx ports (see Figure 23 on page 98 and Figure 24 on page 100).

	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 23
Shelf 0 as*cending* fiber optic Ring (Meridian 1 Option 81C 2 group example)

Group 1, shelf 1
Tx (J1)
Rx (J2)

Group 1, shelf 0
Tx (J1)
Rx (J2)

Group 0, shelf 1
Tx (J1)
Rx (J2)

Group 0, shelf 0
Tx (J1)
Rx (J2)

NTRC48 fiber optic cable

553-9557a
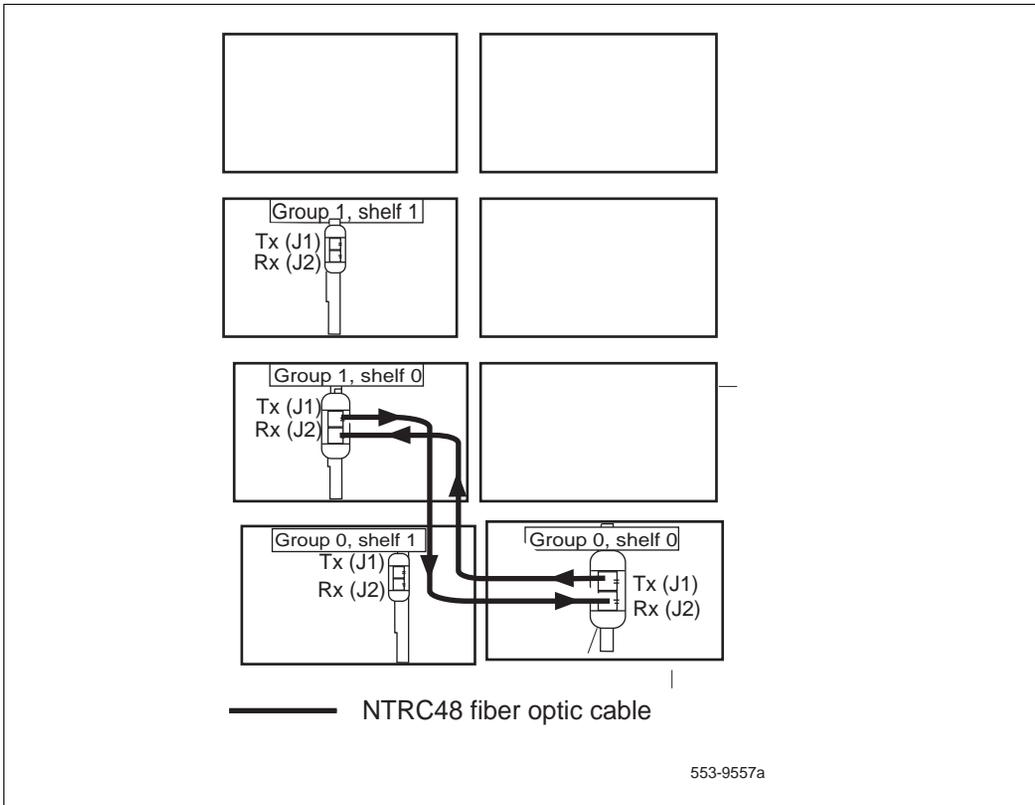
5 To complete the Ring, connect a final cable from the Tx (J1) port in the **highest number group** back to the Rx (J2) port in **Group 0, shelf 0.**

Table 12
FIJI Ring 0 connections

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

———— **End of Procedure** ————

Figure 24
Shelf 0 *ascending* fiber optic Ring (Meridian 1 Option 81C 5 group example)

NTRC48xx fiber optic cable

553-9553
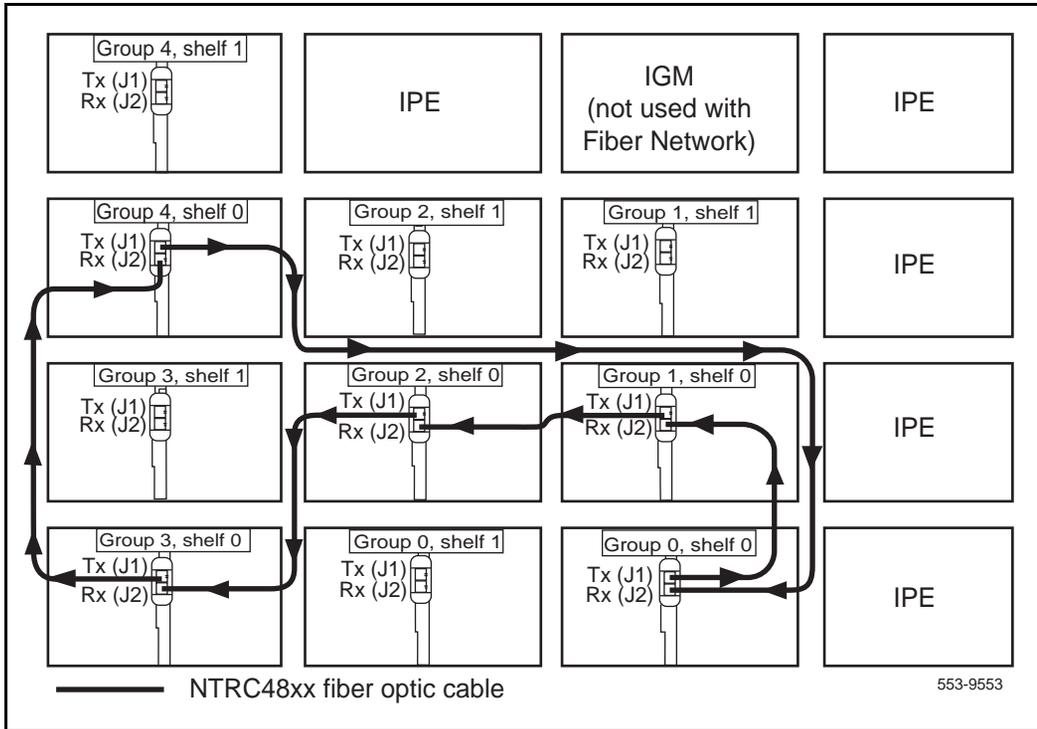
Procedure 26
Cabling the Clock Controllers to FIJI card

Connect the cables to the Clock Controllers as shown in Figure 25 on :

1   Connect the Clock 0 to FIJI cable:

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

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

2   Connect the Clock 1 to FIJI cable:

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

———————————— **End of Procedure** ————————————

Power up Core 0

Procedure 27
Preparing for power up

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

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

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

3   Check the terminal settings as follows:

a.   9600 Baud

b.   8 data

c.   parity none

d.   1 stop bit

e.   full duplex

f.   XOFF

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

———————————— **End of Procedure** ————————————

Figure 25
Clock Controller cable configuration
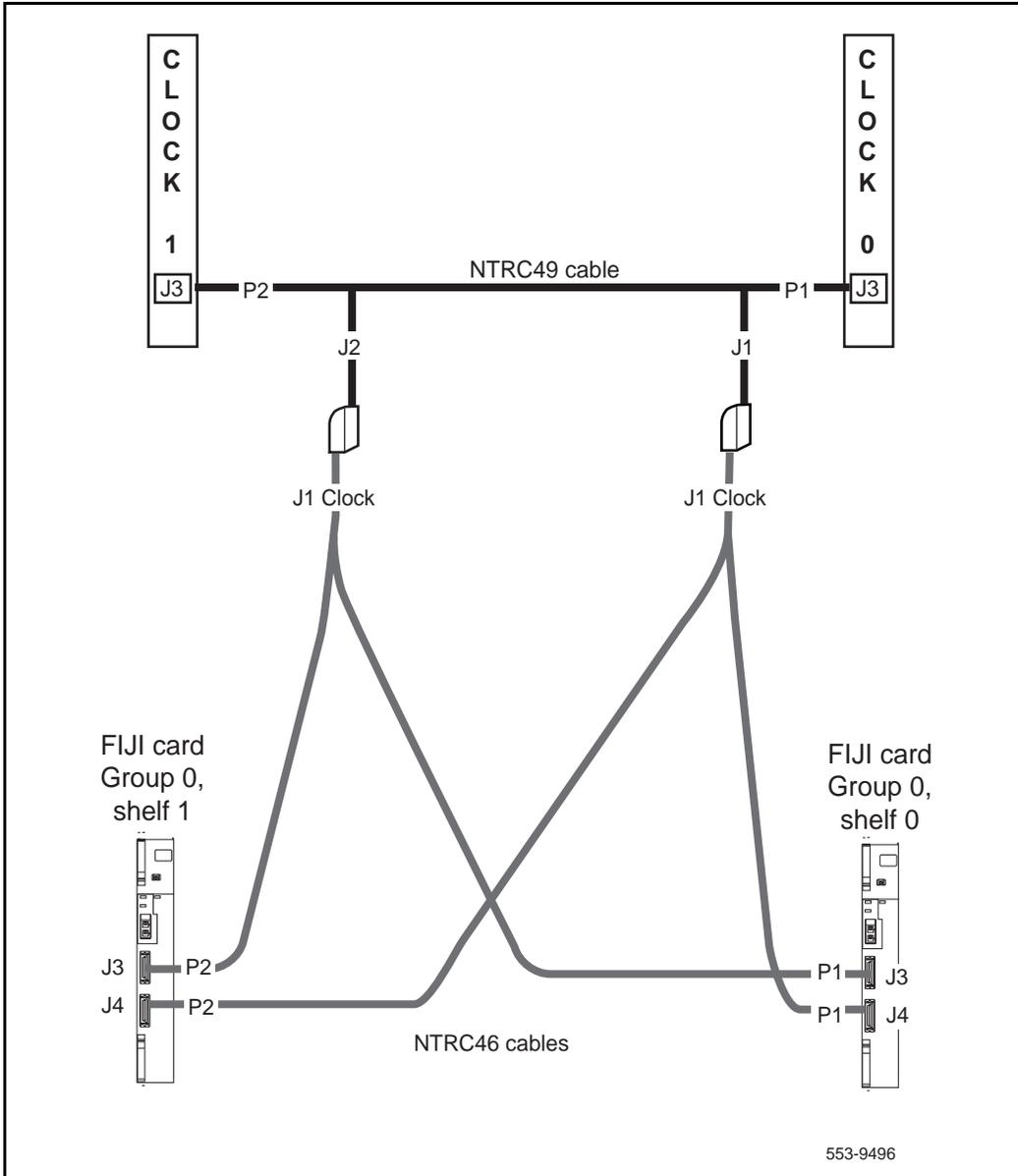
CS 1000 Release 7.5 upgrade

Upgrading the software

Procedure 28 outlines the steps involved in installing CS 1000 Release 7.5 for the CP PIV processor.

Procedure 28
Upgrading the software

1   Check that a terminal is now connected to COM 1port in CP 1. The settings for the terminal are:

  a.   Terminal type: VT100

  b.   9600 Baud

  c.   Data bits: 8

  d.   Parity: none

  e.   Stop bits: 1

  f.   Flow control: none

2   Insert the RMD into the CF card slot on Call Processor 1 (inactive).

3   Perform a KDIF in LD 143.

4   Press the manual RESET button the Call Processor 1 (inactive) card faceplate.

5   Call up the Software Installation Program during a SYSLOAD. During SYSLOAD, the following prompt appears:

```
Read boot parameters from:
  F: Faceplate compact flash
  H: Hard Drive
  0 [H]
```

Press F to boot from the compact flash (which contains the software).

For the CP PIV upgrade, the **F** must be in uppercase.

6   Enter <CR> at the Install Tool Menu.

Note: Blank CF prompts begin here.

```
Mounting /cf2
Found /cf2/nvram.sys
Mounting /boot|
Found /boot/nvram.sys

                    Selecting nvram file from 2
sources

Read boot parameters from:
F: Faceplate compact flash
H: Hard Drive

 10 [F]

Press <CR> when ready

Reading boot parameters from /boot/nvram.sys

Press any key to stop auto-boot...
```

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




                            Avaya
        Communication Server 1000 Software

               Install Tool version 29

                  Copyright 1992 - 2007



          Please press <CR> when ready ...

*********************************************************************
 WARNING:

 This software does not support TNs configured on PE/EPE
 shelves. Upgrading to this software release will permanently
 disable all TNs configured on PE/EPE and will not allow new
 TNs to be configured.

 Proceed with the upgrade? (Y/N) y

*********************************************************************
 WARNING:

 Upgrading from pre-Release 4.5 software to Release 4.5 or higher
 will result in the system PDT passwords being reset to default.

 Proceed with the upgrade? (Y/N) y
```

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

```
            M A I N    M E N U

The Software Installation Tool will install or
upgrade Communication Server 1000 Software,
Database and the CP-BOOTROM. You will be
prompted throughout the installation and given
the opportunity to quit at any time.

Please enter:

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

        <t> - To Tools menu.

        <q> - Quit.

        Enter Choice> <u>
```

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

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

No keycode files are available on the removable
media.

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

Please enter:

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

        <q> - Quit.

        Enter choice>
```

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

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

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

You selected to quit. Please confirm.

Please enter:

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

        <n> - No, DON'T quit.

        Enter choice>
```

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

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

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

Name                      Size    Date       Time

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

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

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

<q> - Quit

Enter choice> 2
```

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

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

```
Validating keycode ...

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

Copy OK: 1114 bytes copied

The provided keycode authorizes the install of
xxxx software (all subissues) for machine type
xxxx (CP PIV processor on <system>).
```

Note: The software release displayed depends on the keycode file content. The system requests keycode validation.

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

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

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

Please enter:

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

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

Enter choice>
```

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

Note: Option A uses the existing db from the FMD. External database backup is Option B.

```
Communication Server 1000 Software/Database/
BOOTROM RMD Install Tool
=================================================
I N S T A L L    M E N U

        The Software Installation Tool will
install or upgrade Communication Server 1000
Software, Database and the CP-BOOTROM. You will be
prompted throughout the installation and given the
opportunity to quit at any time.

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

        <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> <a>
```

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

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

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

Please enter:

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

        <q> - Quit.

Enter choice> <CR>
```

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

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

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

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

The RMD contains System S/W version xxxx.

Please enter:

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

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

Enter choice> <CR>
```

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

13 Choosing Yes for the Dependency Lists installation.

Note: If Dependency Lists are not installed on media, the following prompts do not appear. Proceed to step 14 on .

Do you want to install Dependency Lists?

Please enter:

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

<n> - No, Continue without Dependency Lists installation

Enter choice>

The default choice is YES as shown in the prompt.

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

Are you sure?

Please enter:

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

<y> - Yes, Go to the next menu

Enter choice>

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

Enable Automatic Centralized Software Upgrade (CSU) Feature?

Please enter:

<CR> -> <y> - Yes

<n> - No

Enter choice>

14 Select to enable/disable CSU option.

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

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

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

```
 Set Automatic Centralized Software Upgrade Mode to:

         Please enter:

 <CR> -> <1> - Sequential

        <2> - Simultaneous

         Enter choice>

 >Processing the install control file ...

 >Installing release 0600x
```

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

```
*************************************************
PSDL INSTALLATION MENU

The PSDL contains the loadware for all
downloadable cards in the system and loadware for
Avaya 3900 Series Digital Deskphones.

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

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

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

>Copying new PSDL ...
```

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

17 Enter <CR> to confirm and continue upgrade.

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

```
 Please enter:

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

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


       Enter choice>

>Checking system configuration

You selected to upgrade Software release: XXXX to
release: xxxx. This will erase all old system
files.

This will  create  all  necessary  directories and
pre-allocate files on the hard disk.

You  may continue  with software  upgrade or quit
now and leave your software unchanged.

Please enter:

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

       <q> - Quit.

       Enter choice>

```

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

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

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

Software release xxxx was installed successfully
on Core x.

All files were copied from RMD to FMD.


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

19 Press "Enter" after checking the Installation summary.

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

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

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

         Please enter:

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

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

         <c> - To install Database only.

         <d> - To install CP-BOOTROM only.

         <t> - To go to the Tools menu.

         <k> - To install Keycode only.

               For Feature Expansion, use OVL143.

         <p> - To install 3900 set Languages.

         <q> - Quit.

         Enter Choice> q
```

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

```
You selected to quit. Please confirm.

    Please enter:

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

        <n> - No, DON'T quit.


        Enter choice> <CR>

You selected to quit the Install Tool.

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




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

        DO NOT REBOOT USING RESET BUTTON!!!


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


        Please enter:

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

        <m> - Return to the Main menu.

        Enter Choice> <CR>

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

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

>Rebooting system ...
```

At this point the system reloads and initializes.

—————— **End of Procedure** ——————

Verifying the upgraded database

Procedure 29
Verifying the upgraded database

1   Print ISSP (system software issue and patches)

LD 22	Load program
REQ	ISSP
****	Exit program

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

—————— **End of Procedure** ——————

Making the system redundant

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

Procedure 30
Making the system redundant

1   The LAN 1 and LAN 2 cables should be attached to the CP PIV faceplate connectors on Core 0 and Core 1.

2   Enter LD 135 and issue the JOIN command. The high speed pipe (HSP) status is now up. This begins the synchronization of the Call Servers.

| **LD 135** | Load program |
| **JOIN** | Join the 2 CPUs together to become redundant |

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

> **LD 135**
>
> **STAT CPU**   Obtain 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   Obtain status of CPU and memory

****   Exit the program

```
.stat health

Local (Side 0, Active, Redundant):

Components without TIER 1 Health contribution:

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

     disp 0 15 1:In Service

     sio2 0 15 1:In Service

        cp 0 16:In Service

          ipb 0:In Service

TIER 1 Health Count Breakdown:

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

     sio8 0 16 1: 0002

     sio8 0 16 2: 0002

       sutl 0 15: 0002

       strn 0 15: 0002

     xsmp 0 15 1: 0002

     cmdu 0 16 1: 0008

      eth 0 16 0: 0002

Local TIER 1 Health Total: 20
```

```
TIER 2 Health Count Breakdown:

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

ELAN 16 IP : 47.11.138.150 Health = 2

ELAN 17 IP : 47.11.138.153 Health = 2


Local AML over ELAN Total Health:4

Local Total IPL Health = 6


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


Local TIER 2 Health Total:10


Remote (Side 1, Inactive, Redundant):

Components without TIER 1 Health contribution:

     disp 1 15 1:In Service

     sio2 1 15 1:In Service

         cp 1 16:In Service

           ipb 1:In Service

TIER 1 Health Count Breakdown:

     sio8 1 16 1: 0002
     sio8 1 16 2: 0002
      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.

Note: The single slot FIJI packs (NTRB33BBE5) require a different firmware than the double slot FIJI packs. The double slot and single slot firmware is available from the system hard drive. The FIJI card downloads the required firmware based on the FIJI card ID information.

———— **End of Procedure** ————

Completing the CP PIV upgrade

Testing the Cores

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

From Core/Net 1, perform these tests:

LD 137

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

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

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

Procedure 31
Testing Core/Net 0

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

1   Perform a redundancy sanity test:

   LD 135

   STAT CPU   Obtain status of CPU and memory

   TEST CPU   Test the CPU

2   Check the LCD states

   a.   Perform a visual check of the LCDs.

   b.   Test and LCDs:

   LD 135

   DSPL ALL

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

3 Test the System Utility card and the cCNI cards:

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

4 Test system redundancy and media devices:

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

5 Test that the system monitors are working:

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

6 Clear the display and minor alarms on both Cores:

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

7   Test the clocks:

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

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

    b.   Verify that the Clock Controllers are switching correctly.

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

8   Check dial tone.

9   Check applications.

10   Test the Fiber Rings:

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

    a.   Check that the Fiber Rings operate correctly:

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

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

RSTR	Restore both Rings to HALF state

    c.   Check that the Rings operate correctly:

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

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

11 Check the status of the FIJI alarms:

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

    ****   Exit program

12 Check applications.

13 Check dial tone.

Switching call processing

Procedure 32
Switching call processing

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

✔ Core/Net 0 is now the active call processor.

Procedure 33
Testing Core/Net 1

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

1   Perform a redundancy sanity test:

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

2   Test the System Utility card and the cCNI cards:

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

3 Test system redundancy and media devices:

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

4 Test that the system monitors are working:

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

5 Clear the display and minor alarms on both Cores:

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

6   Test the clocks:

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

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

    b.   Verify that the Clock Controllers are switching correctly.

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

7   Check dial tone.

8   Check applications.

9   Test the Fiber Rings:

    a.   Check that the Fiber Rings operate correctly:

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

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

RSTR	Restore both Rings to HALF state

    c.   Check that the Rings operate correctly:

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

10 Check the status of the FIJI alarms:

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

    ****   Exit program

11 Check applications.

12 Check dial tone.

———— **End of Procedure** ————

Performing a customer backup data dump (upgraded release)

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

1 Log into the system.

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

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

    LD 43   Load program.

    .   EDD

4 When "EDD000" appears on the terminal, enter:

    EDD   Begin the data dump.

> ⚠️ **CAUTION**
>
> **Loss of Data**
>
> If the data dump is not successful, do not continue; contact your technical support organization. A data dump problem must be corrected before proceeding.

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

    ****   Exit program

——————————— **End of Procedure** ———————————

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

Installing a Signaling Server

Contents

This chapter contains the following topics:

Introduction

This chapter contains general instructions to install and connect Server card hardware. This chapter also contains general instructions to connect Commercial off-the-shelf (COTS) servers.

The Avaya Communication Server 1000M (Avaya CS 1000M) system supports the Common Processor Pentium Mobile (CP PM) card model NTDW66, the Common Processor Dual Core (CP DC) model NTDW54, and the Commercial off-the-shelf (COTS) servers.

A CP PM, CP DC or COTS server that you deploy with Signaling Server applications is referred to as a Signaling Server. A CP PM or COTS server that you deploy with SIP Line can be referred to as a SIP Line Gateway.

IMPORTANT!

Instructions to install an IBM X306m, IBM x3350, or HP DL320-G4, or Dell R300 COTS server are not included in this chapter. Detailed installation instructions are in the IBM xSeries 306m User Guide, IBM x3350 User Guide, HP ProLiant DL320 Generation 4 Server User Guide, or the Dell PowerEdge R300 User Guide shipped with the server.

Signaling Server task flow

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

For more information refer to the following documents, which are referenced in Figure 26 on :

- *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)

- *Avaya Element Manager: System Administration* (NN43001-632)

- *Avaya Signaling Server IP Line Applications Fundamentals* (NN43001-125)

Figure 26
Signaling Server task flow
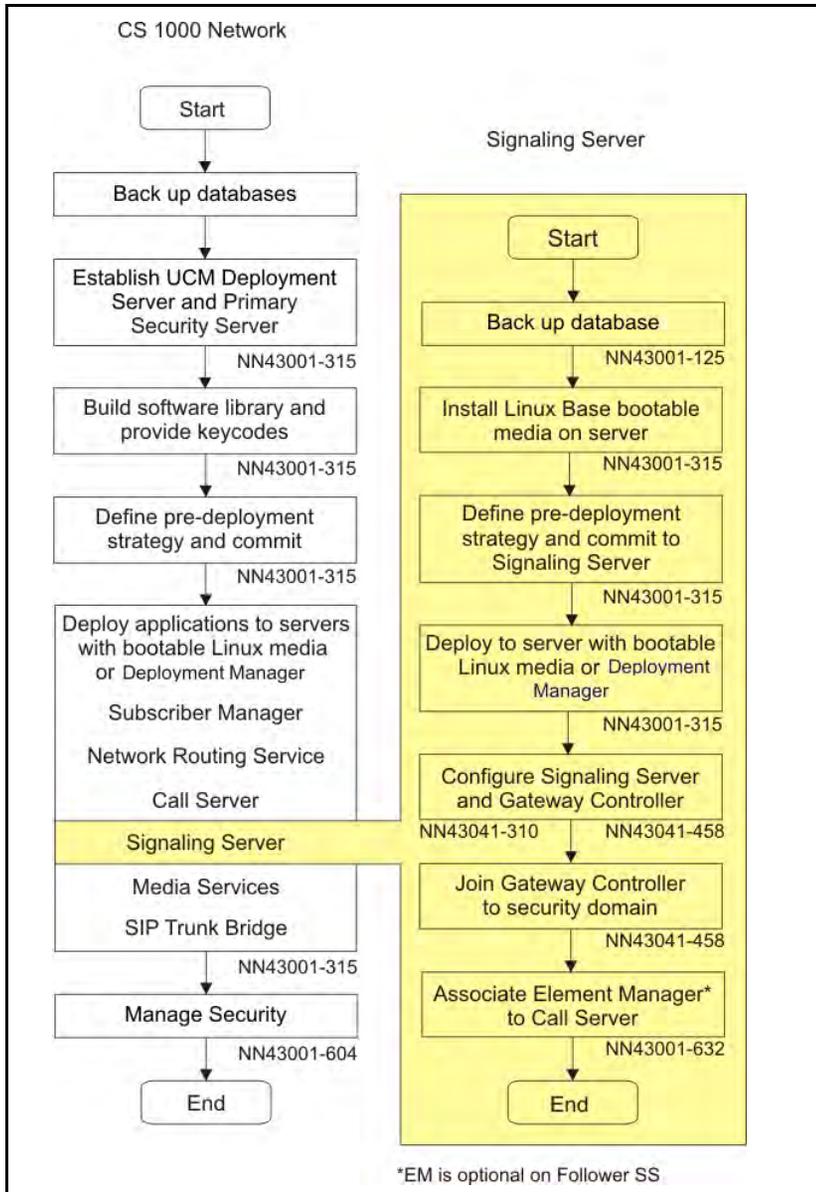
Upgrading and reconfiguring the software

CS 1000 Release 7.5 supports the following Signaling Server hardware:

- CP PM server

- CP DC server

- IBM X306m server

- IBM x3350 server

- HP DL320-G4 server

- Dell R300 server

> **IMPORTANT!**
>
> Avaya CS 1000 Release 7.5 does not support the Avaya ISP1100 Signaling Server. You must replace the ISP1100 with a CP PM or COTS Signaling Server.

This chapter contains information and references for upgrading the Signaling Server software from a previous release to CS 1000 Release 7.5. Signaling Server applications in CS 1000 Release 7.5 require Linux. You must install Linux Base on your CP PM or COTS server before you can install any Signaling Server applications.

If you are upgrading from a Vxworks Signaling Server, Avaya recommends you to backup your IP Phone database and Network Routing Service (NRS) database on your current software release before upgrading to Linux Base and installing applications. You can restore your IP Phone database and NRS backups when you complete the Signaling Server upgrade.

CS 1000 Release 7.5 requires a Signaling Server to have at least 2 GB of RAM memory, and at least 40 GB of hard drive capacity. You must upgrade Signaling Servers with less than 2GB of RAM before installing CS 1000 Release 7.5 Linux Base and Signaling Server software. For detailed instructions on performing this memory upgrade, see *Avaya Circuit Card: Description and Installation* (NN43001-311).

You can upgrade a CP PM Signaling Server to support the Linux base and applications for Communication Server 1000 Release 7.0 with a CP PM

Signaling Server Linux upgrade kit. The NTM427CBE6 upgrade kit includes the following components.

- NTDW6102E5 - CP PM Signaling Server hard drive (Linux OS preloaded)

- NTM42703 - 2 GB Compact Flash (CF) with Linux software, 2 GB blank CF

- NTDW6109E6 - 1 GB DDR SO-DIMM memory upgrade

Overview

To upgrade a Signaling Server:

- Use EM and make a PD backup if necessary
- Install Linux Base and configure parameters
- Use Centralized Deployment manager to install Signaling Server applications
- Use EM, configure the system or import backup node files
- Use EM and restore the PD backup

Avaya recommends that you back up the application databases prior to the upgrade as a precautionary measure. The application databases consist of the IP Phone database and the NRS database.

If you do not know whether the Signaling Server being upgraded has an NRS, use Procedure 35, "Verifying the presence of an NRS," on 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. 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, see *Avaya IP Peer Networking: Installation and Commissioning* (NN43001-313).

For instructions on backing up and restoring the IP Phone database, see *Avaya Signaling Server IP Line Applications Fundamentals* (NN43001-125).

Procedure 35
Verifying the presence of an NRS

1   Open Internet Explorer.

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

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

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

    The Element Manager logon web page appears.

Figure 27
Element Manager logon page
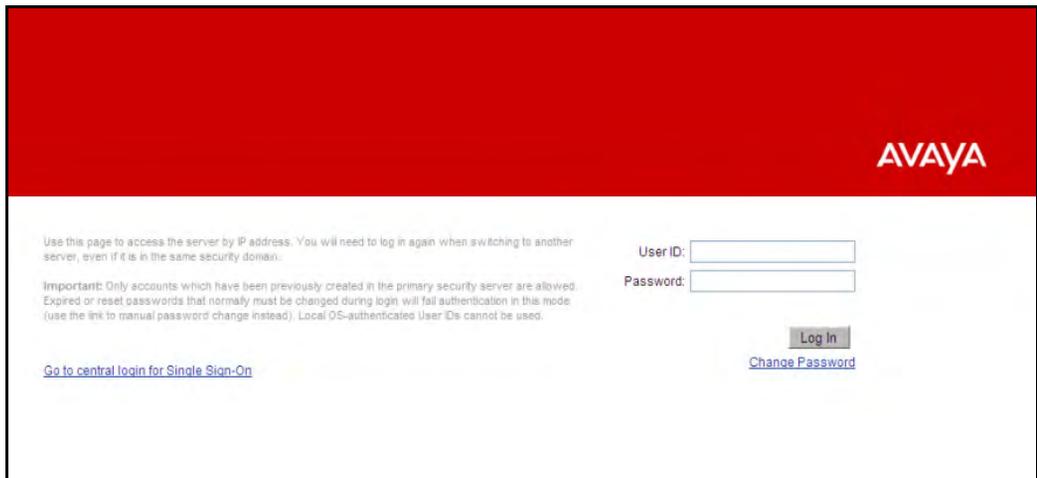
Initially, you can be prompted to enter the Call Server IP address, because the Call Server is used for web logon authorization. The Call Server IP address is a requirement, because unless you entered additional configuration parameters during the Signaling Server installation, the node configuration 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 28 on).

Figure 28
Element Manager: Home - System Overview
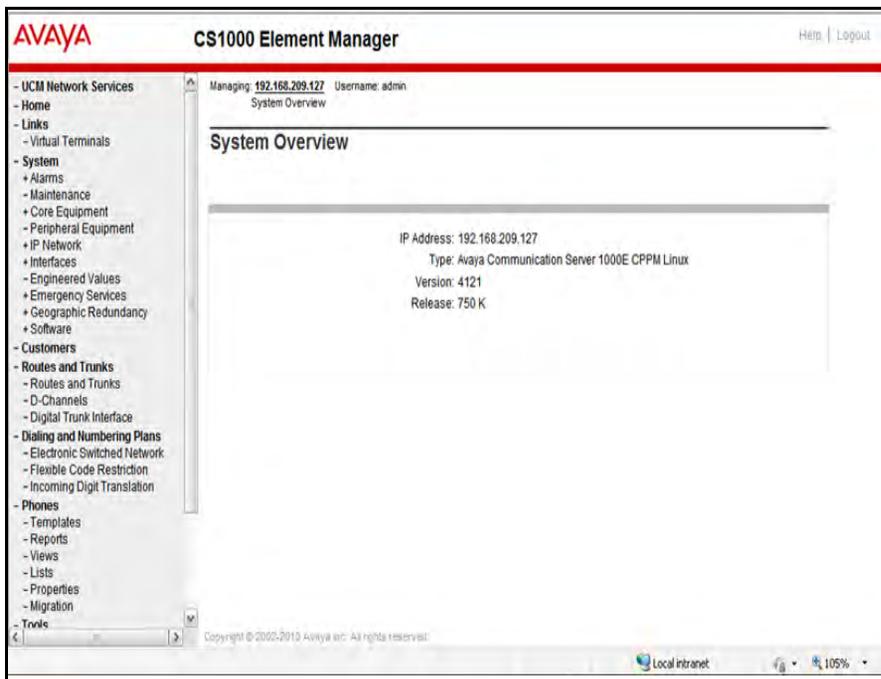
This screen identifies the components of your CS 1000 system.

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 29 on).

Figure 29
Signaling Server properties
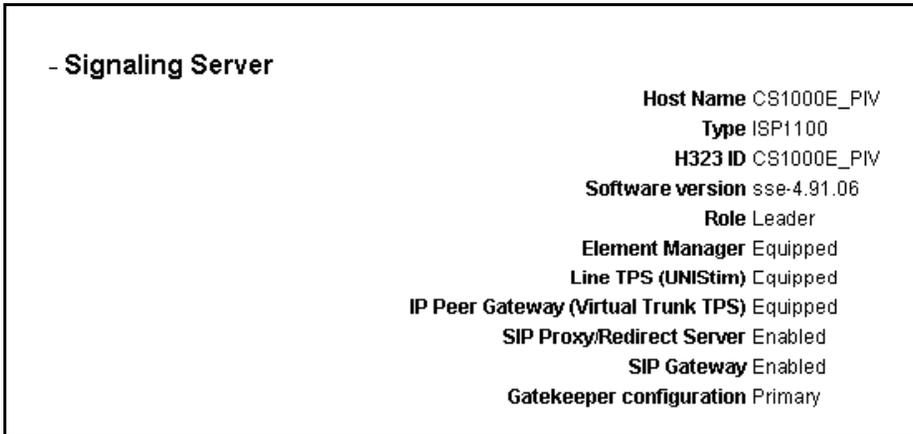
5   View the contents of the "Gatekeeper configuration" property.

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 *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)

- Take a precautionary backup of the IP Phones application database.

- Take a precautionary backup of the NRS database.

- Obtain the CS 1000 Release 7.5 version of the Signaling Server Software Install media, see *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315)

- Ensure that there is 2 GB of RAM, and at least 40 GB of hard drive capacity on your CP PM or COTS Signaling Server

Upgrade the CP PM BIOS

The NTDW66CAE6 CP PM card (CP PM version 2) does not require a BIOS upgrade. The CP PM version 2 uses an updated design, BIOS, and boot manager. Older NTDW66 CP PM cards (CP PM version 1) can require a BIOS upgrade to support Linux.

The Communication Server 1000 Linux Platform Base installer requires that a CP PM version 1 card runs BIOS version 18 or higher. If the installer detects a lower version on the CP PM card it automatically loads software for you to upgrade the CP PM BIOS. Perform the steps in Procedure 36 to upgrade the CP PM BIOS to version 18.

For information about manually upgrading the CP PM BIOS with VxWorks software, see *Avaya Communications Server 1000E Maintenance* (NN43041-700).

Procedure 36
Upgrading the CP PM BIOS with the Linux Base installer

1   Connect to serial port 1 on the CP PM.

2   Insert the Linux Base installation CF card into the faceplate CF slot.

3   Power on the system.

4   Once the initial boot and memory check completes for a CP PM version 1 card, Figure 30 appears. Press the **F** key to boot from the Linux Base installation faceplate CF card.

Note: For CP PM version 2 cards, press the **F** key to enter the boot menu, select Faceplate RMD, and press **Enter** to boot from the faceplate CF card.

Figure 30
CP PM faceplate drive boot

```
+-----------------------------------+-------------------------------------
| System CPU          : Pentium M   | Low Memory          : 632KB
| Coprocessor         : Enabled     | Extended Memory     : 1011MB
| Ide 0 Type          : 3           | Serial Ports 1-2    : 03F8 02F8
| Ide 1 Type          : 3           | ROM Shadowing       : Enabled
| Ide 2 Type          : 3           | BIOS Version        : NTDU74AA 14
+-----------------------------------+-------------------------------------

Press F to force board to boot from faceplate drive.
.................................................

Attempting to boot from faceplate drive.


CPU Frequency = 1400 MHz

V1.6a+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++█
```

5   The welcome screen appears. Press **ENTER** to direct the input and output to COM1.

6   Figure 31 appears if the CP PM card has a BIOS version lower than 18. Enter **yes** to proceed with the automatic upgrade.

CAUTION — Damage to Equipment

Do not interrupt the BIOS upgrade process.

Figure 31
CP PM BIOS automatic upgrade

```
#########################################################################
#                                                                       #
#    CP-PM BIOS version is less than 18. BIOS upgrade is required.       #
#                                                                       #
# To complete the upgrade, BIOS settings must be changed to defaults.   #
#        Please refer to the documentation for more information.        #
#                                                                       #
#########################################################################


Do you want to upgrade BIOS ROM up to the version 18? (yes/no): yes

BIOS ROM upgrade. Please wait...


BIOS ROM upgrade is finished.

Machine will be rebooted right now... Press Enter key to continue
```

7   Verify that the BIOS upgrade is finished. Press **Enter** to reboot.

8   During the reboot memory check, press **Ctrl c** to access the CP PM BIOS setup menu.

Note: If you miss the timing to press **Ctrl c** you must reboot the system and try again. The Linux Platform Base installation software will display a warning if you do not reset the CP PM BIOS to factory defaults.

9   Figure 32 appears. Select **Reset CMOS to factory defaults** from the menu.

Figure 32
CP PM BIOS setup


```
            System BIOS Setup - Utility v5.3
    (C) 2005 General Software, Inc. All rights reserved
-----------------------------------------------------------




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




-----------------------------------------------------------
   ^E/^X/<Tab> to select. <Esc> to continue (no save)
                 www.gensw.com
```
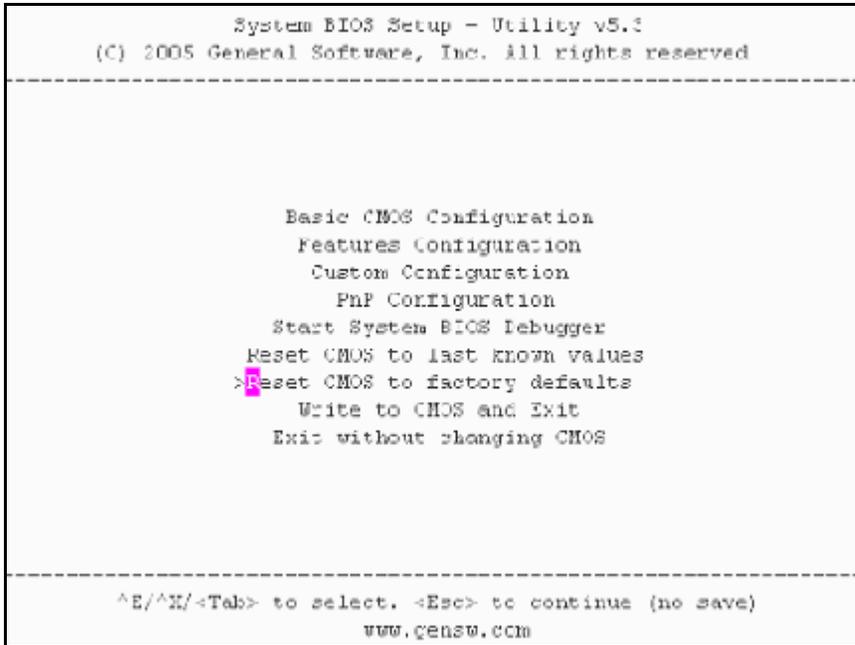
10   Figure 33 appears. Press **y** to reset CMOS to factory defaults.

Figure 33
CP PM BIOS reset


```
                  System BIOS Setup - Utility v5.3
       (C) 2005 General Software, Inc. All rights reserved
--------------------------------------------------------------------------



                    Basic CMOS Configuration
                    Features Configuration
        +--------------------------------------------------+
        |   Reset CMOS to factory defaults? (Y/N): y    |
        |                                                  |
                  Reset CMOS to last known values
                  Reset CMOS to factory defaults
                     Write to CMOS and Exit
                   Exit without changing CMOS



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

11 The system reboots. After initial boot Figure 30 appears and the new
BIOS version is displayed. Verify BIOS version is 18. You can now press
the **F** key to boot from the faceplate CF card and proceed with the Linux
Platform Base software installation.

———————————————— **End of Procedure** ————————————————

Installing the Linux Base

Perform the Linux Base installation if your Signaling Server does not currently run the latest Linux Base software release. The CP PM Linux upgrade kit contains a hard drive with Linux Base preloaded. You can install Linux Base from the command line interface (CLI) using a bootable CF card on CP PM, and using a bootable optical disk on COTS. Configure the ELAN, TLAN, IP address, Gateway, subnet masks, date, and time settings during the Linux Base installation. For more information about installing or upgrading Linux Base, see *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

Installing Linux applications

Avaya CS 1000 Release 7.5 Signaling Server and SIP line software are Linux applications. Linux applications install on Linux Base and interact with the Linux Base application framework. You can deploy and install Linux applications with the Linux Base Centralized Deployment manager. You can configure a deploy SIP Line with Element Manager (EM).

For information about Linux applications, Centralized Deployment manager, and EM, see *Avaya Element Manager: System Administration* (NN43001-632), *Avaya Signaling Server IP Line Applications Fundamentals* (NN43001-125), and *Avaya Linux Platform Base and Applications Installation and Commissioning* (NN43001-315).

Joining the UCM security domain

The UCM Primary Security Server acts as the RADIUS server that CS 1000 devices use to obtain authentication and access control parameters for CLI access. The UCM Primary Security Server sends RADIUS related parameters to CS 1000 devices using the SSH protocol.

When a device joins the UCM security domain, a mutually-trusted SSH channel is created. You must manually confirm the fingerprint of the public key before the UCM Primary Security Server RSA public key is added to the authorized key file. This verification prevents third-party intercepts.

When a mutually-trusted SSH tunnel establishes a connection to a CS 1000 device, the UCM Primary Security Server can send SSH remote commands to the device using RSA public key-based authentication.

For more information about joining the UCM security domain, see *Avaya Security Management* (NN43001-604).

Appendix A: Upgrade checklists

Contents

This appendix contains the following topics:

Introduction

The following section provides Large System upgrade checklists.

Technical Support

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

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

Site details

Table 13
Site Details

Customer Name	
Tape ID (LD 22)	
Modem Number (Core)	
Switch Room Telephone	
Baud Rate	
Modem Password	
PBX Password	
System Type	
Software Generic	

Upgrade details

Table 14
Upgrade details

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

Preupgrade checklists

Software Upgrade

Software audit

Table 15
Software audit

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

License Upgrade

Table 16
Keycode audit

Keycode Audit		
Perform the keycode Audit prior to the scheduled upgrade.		
Take corrective action if answer is no		
	Yes	No
Keycode Disk Ready		
Keycode Data Sheet Ready		
SDID Matches System		
TID Matches System		
Perform a KDIFF in LD 143 to compare keycodes		

Conversion Required

Table 17
Conversion Procedures

Conversion Procedures	
Upgrades between different machine types require some type of conversion.	
If the disk media is changing the database must be physically transferred	
between storage devices. Please select source and target media.	

Table 18
Typical Storage Media Changes Between machine Types (Part 1 of 2)

Typical Storage Media Changes Between machine Types		
Source	Target	Procedure Required
CMDU	IODUC	4M - 2M media transfer

Table 18
Typical Storage Media Changes Between machine Types (Part 2 of 2)

IODUC	MMDU	Disk to new Drive both use 2M Floppy Drives
MMDU	MMDU	Disk to new Drive

Hardware Upgrade

Hardware audit

Table 19
Hardware audit

Hardware Audit		
Perform the Hardware Audit prior to the scheduled upgrade.		
	Yes	No
Verify Shipping List - Complete and Accurate		
Audit Site for new hardware locations		
Pre Run Cables if possible		
Review All switch settings for new cards		
Read all applicable document Procedures completely		

Preconversion steps

Table 20
Preconversion steps (Part 1 of 2)

Pre Conversion Steps
A capture file should be made of the following information using a PC or Printer.
Perform an overall system check:
LD 135 SCPU (ensure that the system is redundant)
LD 137 STAT/TEST CMDU
LD 96 STAT DCH
LD 48 STAT AML
LD 32 STAT
LD 60 STAT

Table 20
Preconversion steps (Part 2 of 2)

LD 30 LDIS (Verify what Is disabled if any)
Obtain Software Information from LD 22
ISSP - Patches in service - Future Reference if required
LD 143 - MDP ISSP -Prints all inservice patches and patch handle numbers (includes all DepList patches)
TID/SLT - License Parameters - To compare with converted database
LD 21 - PRT CFN
LD 97 - PRT SUPL/XPEC
Run a Template Audit
LD 1 - Auto Run
Perform a Datadump
Backup at least two copies of the current database, retain the copies.
Print History File or System Event Log
LD 22 - Print AHST - Capture Systems Events to compare will new software if required
LD 117 - PRT SEL 500 - Same as above

Postconversion checks

Table 21
Postconversion checks

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

Quick reference

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

Table 22
IGS cabling chart (Part 1 of 2)

Net Group	Net Shelf	IGS Connector	IGS Net	Slot	Net	DIGS	Slot Connector	Intergroup connector	I G S	Clock
0	0	0	3	8	2	9	BOTTOM	J1	0	
0	0	1	2	9	2	9	TOP	J6	2	0
0	1	1	2	9	2	9	TOP	J17	3	1
0	1	0	3	8	2	9	BOTTOM	J22	1	
1	0	0	3	8	2	9	BOTTOM	J2	4	

Table 22
IGS cabling chart (Part 2 of 2)

1	0	1	2	9	2	9	TOP	J7	6	0
1	1	1	2	9	2	9	TOP	J16	7	1
1	1	0	3	8	2	9	BOTTOM	J21	5	
2	0	0	3	8	2	9	BOTTOM	J3	8	
2	0	1	2	9	2	9	TOP	J8	10	0
2	1	1	2	9	2	9	TOP	J15	11	1
2	1	0	3	8	2	9	BOTTOM	J20	9	
3	0	0	3	8	2	9	BOTTOM	J4	12	
3	0	1	2	9	2	9	TOP	J9	14	0
3	1	1	2	9	2	9	TOP	J14	15	1
3	1	0	3	8	2	9	BOTTOM	J19	13	
4	0	0	3	8	2	9	BOTTOM	J5	16	
4	0	1	2	9	2	9	TOP	J10	18	0
4	1	1	2	9	2	9	TOP	J14	19	1
4	1	0	3	8	2	9	BOTTOM	J18	17	

Note: A DIGS Card is located in the card slot position for IGS 1 in all network shelves. The IGS 1 slot detects the clock signals from the active clock controller and distributes the clock to the entire group. Three out of four IGS cards can be disabled at any given time via LD 39, the IGS 1 that is associated with the active clock cannot be disabled via software, e.g. if clock 1 is active then IGS's 3,7,11,15 and 19 can never be disabled as they are providing clock for their respective network groups.

Group/Loop/PS/FIJI/3PE Switch Settings

Table 23
Switch settings (Part 1 of 2)

Group	Shelf	PS	Loops	FIJI*	3PE NT8D35 Net**	3PE NT5D21 Core Net**
0	0	0	0-16	0 0	off on on on on on on on	off on on off on on on on
0	1	1	16-31	0 1	off on on on on on on off	off on on off on on on off
1	0	2	32-47	1 0	off on on on on on off on	off on on off on on off on
1	1	3	48-63	1 1	off on on on on on off off	off on on off on on off off
2	0	4	64-79	2 0	off on on on on off on on	off on on off on off on on
2	1	5	80-95	2 1	off on on on on off on off	off on on off on off on off
3	0	6	96-111	3 0	off on on on 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

Table 23
Switch settings (Part 2 of 2)

5	1	1 1	176-19 1	5 1	off on on on off on off off	off on on off off on off off
6	0	1 2	192-20 7	6 0	off on on on off off on on	off on on off off off on on
6	1	1 3	208-23 3	6 1	off on on on off off on off	off on on off off off on off
7	0	1 4	224-23 9	7 0	off on on on off off off on	off on on off off off off on
7	1	1 5	240-25 5	7 1	off on on on off off off off	off on on off off off off off

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