



Media Processing Server (Release 3.5)

MPS 3.5 Transition Guide

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Preface

Scope

This guide provides information for making the migration from VPS/is 5.X to MPS 3.5, Upgrade from MPS 2.1 to MPS 3.5 and Upgrade from MPS 3.0 to MPS 3.5. This guide does not address the Media Processing Server (MPS) 500, it is mentioned here for reference only.

Intended Audience

This guide is intended for organizations that are currently operating a VPS/is running VPS 5.X software. It is directed at system operators and administrators who are responsible for making the migration to the MPS 1000 running MPS 3.5. All users should have experience with, and a good understanding of VPS/is system operation including a familiarity with the hardware components, software processes, files/directory structure, and system capabilities. A good understanding of computer systems in general and of the MPS base operating system (Solaris or Windows) is also important.

How to Get Help

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

Finding the Latest Updates on the Avaya Web Site

The content of this documentation was current at the time the product was released. To check for updates to the latest documentation for the MPS 500 and 1000, browse to the following location:

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http://support.avaya.com/css/appmanager/public/support?_nfpb=true&_pageLabel=Support_Directory_Public

How to use this manual

This manual uses many standard terms relating to computer systems, software application functions, and the Internet. However, it contains some terminology that can be explained only in the context of the MPS Series. Refer to the Glossary of Avaya's Media Processing Server Series Terminology for definitions of MPS Series specific terms.

Read this manual from start to finish at least once. When you are familiar with the document, you can use the Table of Contents to locate topics of interest for reference and review.

If you are reading this document online, use the cross-reference links (shown in blue) to quickly locate related topics. Position your cursor over the cross-reference link and click once. Click any point in a Table of Contents entry to move to that topic. Click the page number of any Index entry to access that topic page.

To familiarize yourself with various specialized textual references within the manual, see "[Conventions Used in This Manual](#)".

Note: Periphonics is now part of Avaya. The name Periphonics, and variations thereof, appear in this manual only in reference to a product (for example, the PERImps package, the perirev command, and so on).

Organization of the manual

- **Chapter 1 - Transition from VPS/is 5.X to MPS 3.5**

This chapter provides information for making the migration from the Avaya Voice Processing Series with integration and scalability (VPS/is) running software release VPS 5.X, to the Avaya Media Processing Server (MPS) 1000 running software release MPS 3.5. This guide does not address the Media Processing Server (MPS) 500, it is mentioned here for reference only.

- **Chapter 2 - Upgrade from MPS 2.1 to MPS 3.5**

This chapter provides information about how to upgrade Avaya Media Processing Server (MPS) 2.1 platform to MPS 3.5.

- **Chapter 3 - Upgrade from MPS 3.0 to MPS 3.5**

This chapter provides information about how to upgrade Avaya Media Processing Server (MPS) 3.0 platform to MPS 3.5.

Solaris and Windows Conventions

This manual depicts examples (command line syntax, configuration files, and screen shots) in Solaris format. Windows-specific commands, procedures, or screen shots are shown when required. The following table lists general operating system conventions used with either the Solaris or Windows operating system.

	Solaris	Windows
Environment	\$PPROHOME	%PPROHOME%
Paths	\$PPROHOME/bin	%PPROHOME%\bin
Command	<command> &	start /b <command>

Two-Button (Windows) vs. Three-Button (Solaris) Mouse

<SELECT>	Left button
<ADJUST>	Left and Right together
<MENU>	Right button



<SELECT>	Left button
<ADJUST>	Middle button
<MENU>	Right button



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Product Nomenclature Changes

The following product names changed with the latest Avaya MPS software release. All other references to the former name with respect to environment variables, directory paths, software package names, and so on remain the same. For example, the PeriProducer product is now referred to as the Media Processing Server Developer; however, its package name remains PERIpro.

Former Product Name	New Product Name
IVR Software	Media Processing Server Release x.x
PeriProducer	Media Processing Server Developer
PeriView	Media Processing Server Manager
PeriStudio	Media Processing Server Studio
PeriReporter	Media Processing Server Reporter
PeriSQL	Media Processing Server RDB

Former Product Name	New Product Name
PeriVXML	Media Processing Server VXML Browser
CTI Suite	Communications Control Toolkit (CCT)
Open Signal Computing and Analysis Resource (OSCAR)	Speech Server

Chapter 1. Transition from VPS/is 5.x to MPS 3.5

Overview

Introduction

This guide provides information designed to ease the migration from the Avaya Voice Processing Series with integration and scalability (VPS/is) running software release VPS 5.X, to the Avaya Media Processing Server (MPS) running software release MPS 3.5.

Accessing MPS On-line Documentation

Avaya documentation is available on-line in portable document format (PDF). On an MPS, this documentation is accessed through a Web browser by entering the address, [http:// www.localhost.com](http://www.localhost.com) and clicking on the documentation hyperlink.

To access the documentation from another network location (for example, from a development workstation), enter the MPS IP address in the address field of a Web browser.

Viewing PDF Documentation

Adobe Reader must be installed to view the PDF documentation. Obtain a free download of Adobe Reader from <http://www.adobe.com/>.

Checking For Documentation Updates

The content of this documentation was current at the time the product was released. To check for updates to the latest documentation for the MPS 500 and 1000, go to <http://www.avaya.com/> under the Support & Training heading.

New Features

For a complete list of new features and enhancements offered in MPS Release 3.5, refer to the document Media Processing Server 3.5 Release Notes.

MPS Architectural Overview

Important:

VPS/is hardware is not compatible with an MPS 3.5 system. You cannot reuse VPS/is hardware on an MPS 3.5 system.

MPS 1000 Hardware Overview

The Telephony Media Server (TMS) is the basis for the MPS 1000. The TMS assembly is a chassis plug-in module that provides the functionality of the Call Processing Subsystem (CPS). With respect to the CPS, the TMS provides additional functionality, system resources, reduced footprint, greater call handling capacity, and a greater degree of flexibility, scalability, and reliability.

The basic TMS assembly provides resources for telephony media management including switching/bridging, digital signal processing (programmable resources), voice and data memory, and network interfaces. It can be configured with up to four additional modules including digital phone line interfaces and additional digital signal processors. All modules can be customized via hardware and run-time configuration for the specific applications and environment.

The TMS assembly plugs into the Avaya Variable Resource Chassis (VRC). The VRC accommodates up to four TMS assemblies, the application processor(s), network interface controller(s), and separate power supplies for each VRC slot. Each TMS is a node on the system network and is aliased to an MPS component. For example, each TMS appears in Media Processing Server Manager as a separate component (like VPS components in VPS 5.X).

For a quick reference of the VPS/is and MPS 1000 hardware comparisons, see [Hardware Comparison Matrix](#). A complete description of the new hardware is provided in the Media Processing Server 1000 Hardware Installation and Maintenance manual.

Avaya Media Processing Server (MPS) 1000

The MPS 1000 is a large scale telephony application server. It comprises from 2 to 48 TMSs in 12 VRC assemblies. For the current release, the MPS 1000 can be scaled to a capacity of 384 T1 or E1 spans (9,216 or 11,520 lines).

Avaya Media Processing Server (MPS) 500

The MPS 500 consists of one Telephony Media Server (TMS) that supports 8 T1/E1 spans (192 or 240 lines) or comparable capacity VoIP channels. The MPS 500 is capable of providing full IVR functionality including fax, caller message recording, conferences, speech recognition and text-to-speech (using Speech Server resource servers), SQL database access, host screen scrape access, CTI integration, and supports building and running of an application to control a given call. This manual does not address migration to the MPS 500. It is mentioned here for reference only.

For detailed information on the MPS 500, please see the Media Processing Server 500 Hardware Installation and Maintenance manual.

Hardware Comparison Matrix

In the MPS 1000, all of the functions previously performed by a CPS module now reside on the TMS or VRC. The TMS and its modules provide additional functionality that was not available in the CPS. The following table outlines the major hardware modules of the VPS/is and where their associated functions are implemented in the MPS 1000.

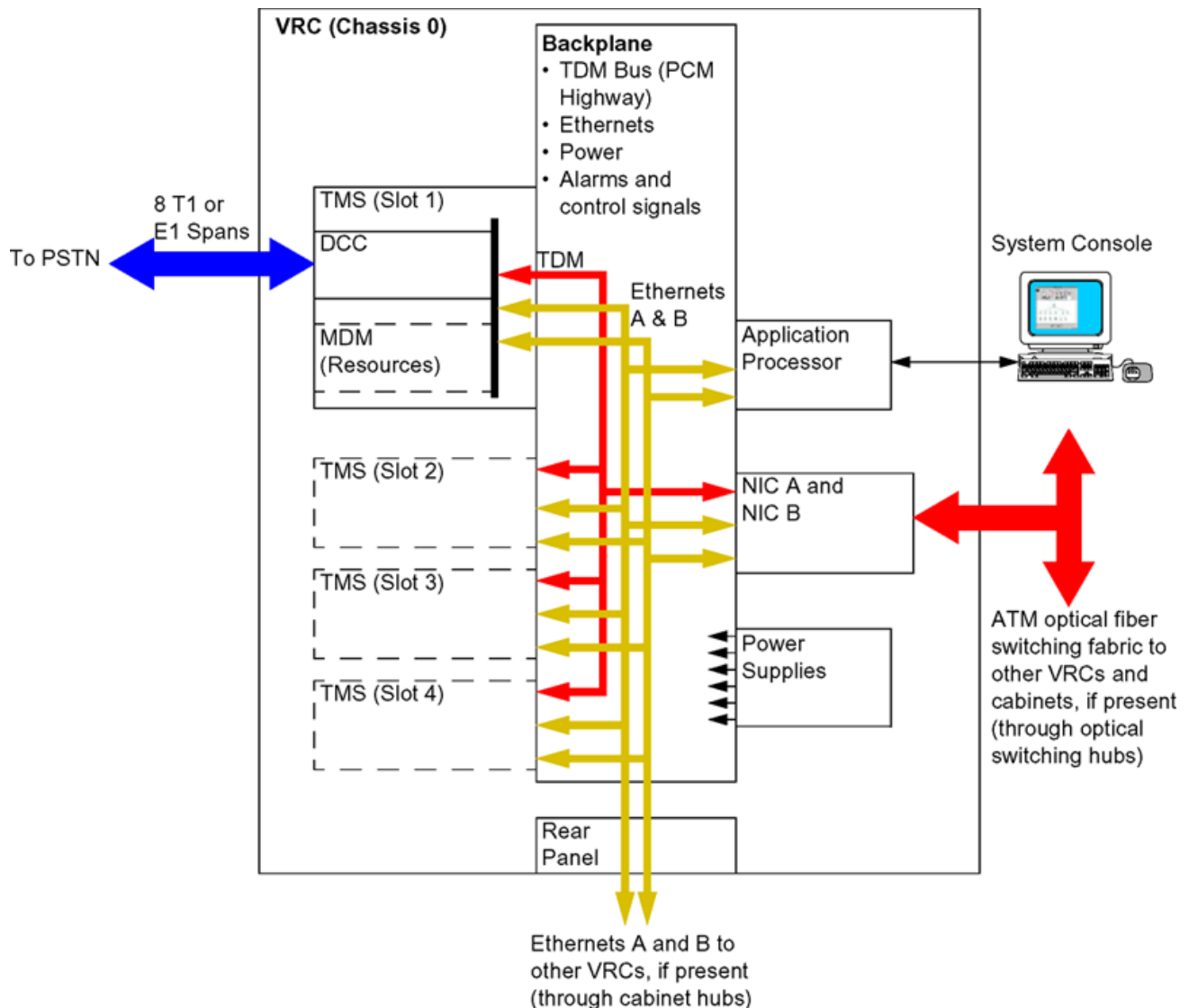
VPS/is	MPS 1000	Description
Alarm Monitor Panel (AMP)	Front Control Panel (FCP)	Alarm indications and reset for all 6 slots in the VRC are provided on the FCP. Indicators for slots 5 and 6 are mirrored on the VRC rear panel. The TMS front panel contains a connector for monitoring phone lines.
Voice Processing Controller (VPC) and Ethernet LAN Adapter (ELA)	Network Interface Card (NIC) and the VRC backplane	The VRC backplane provides a TDM bus for intra-chassis PCM (voice/audio) communication between TMSs. Two NICs provide system monitoring, control, and interface from the TDM bus to an ATM switching fabric.

VPS/is	MPS 1000	Description
Phone Line Controller (PLC) with VPLC and/or T1-2000	Digital Communication Controller (DCC)	The DCC can support up to eight T1 (24 lines) or E1 (30 lines) spans, or VoIP.
Voice Memory Disk Interface (VMDI)	TMS Motherboard	Activated media (for example, vocabularies) are stored in the TMS local RAM. The TMS motherboard contains five slots that accept standard 72- pin single inline memory modules (SIMM).
Resource Board(s): Fax Phone Line Card (FPLC), Voice Recognition Platform (VLP), Text to Speech (TTS), Common Digital Platform (CDP)	Multiple DSP Module (MDM) and TMS Motherboard	The TMS motherboard contains digital signal processors (DSP) that are loaded with image definitions to provide the necessary system resources. Additional system resources can be made available by adding MDM(s) to the TMS.
Communications Processor (CMP)	--	Asynchronous and synchronous host protocols are not currently supported.
Bus Repeater	--	The VRC has capacity for four TMSs. The system is scaled to multiple chassis via Ethernet (data), fiber optic ATM network (voice), and interchassis external clocking signals via coaxial cable.

Hardware Functional Description

Telephony Media Server (TMS)

The basic TMS assembly contains local data processors, shared memory, digital signal processors (DSP) for basic resources, data network interfaces (Ethernet), and Computer Telephony (CT) bus interfaces for voice communications. The TMS is typically configured with at least one telephone line interface module and additional DSPs for increased capacity for additional resources.



MPS Software Overview

MPS Software Architecture

The MPS platform requires MPS 3.5 software. MPS 3.5 is not backward compatible with a VPS/is (a VPS/is cannot be upgraded to MPS 3.5).

For a quick reference of the VPS 5.X and MPS 3.5 process comparisons, see [VPS 5.X/MPS Process Comparison Matrix](#).

New Files and Directory Structure

The particular path used as the distribution directory is set up when the system-level software is installed. The distribution directory contains a lower-level subdirectory named `packages`. All Avaya software packages are stored in their own subdirectories under `packages`. When a particular package is installed, a symbolic link in `$MPSHOME` is set up by the system to reference that package. The new directories and pertinent files are described in the paragraphs that follow.

New Directories

PERIbrdge

PERIbrdge is a symbolic link to the `/opt/vps/packages/brdgeX.X.X/` directory. The directory and its symbolic link are created when the PERIbrdge package is installed. The PERIbrdge package facilitates bridging and telephony network communications between MPS components through the NICs.

PERIcmpat

PERIcmpat is a symbolic link to the `/opt/vps/packages/cmpatX.X.X/` directory with PERIsnmp package. The directory and its symbolic link are created when the PERIcmpat package is installed. PERIcmpat, the shared libraries for MPS Manager operations ensure compatibility between previous generation VPS/is software and current MPS systems. This package is required on all MPS 3.5 systems.

PERIdist

PERIdist is a symbolic link to the `/opt/vps/packages/distX.X.X/` directory. The directory and its symbolic link are created when the PERIdist package is installed. It is used to distribute information from a source location to destination nodes in the MPS network; installs the Web server and Perl scripts used to distribute the information; maintains related log files; and installs a file compression utility.

PERIfw

PERIfw is a symbolic link to the `/opt/vps/packages/fwX.X.X/` directory. The directory and its symbolic link are created when the PERIfw package is installed. The PERIfw package contains a system library that enables platform-independent process execution.

PERIhostp

PERIhostp is a symbolic link to the `/opt/vps/packages/hostpX.X.X/` directory. The directory and its symbolic link are created when the PERIhostp package is installed. The PERIhostp package allows the MPS to communicate with host computers.

PERIjsb

PERIjsb is a symbolic link to the `/opt/vps/packages/jsbX.X.X/` directory. The directory and its symbolic link are created when the PERIjsb package is installed. The PERIjsb package installs the Java Services Bridge (JSB), which provides extensions for incorporating Java services into MPS Developer applications.

PERImps

PERImps is a symbolic link to the `/opt/vps/packages/mpsX.X.X/` directory. The directory and its symbolic link are created when the PERImps package is installed. The PERImps package in MPS 3.5 replaces the PERIvps package in VPS 5.X.

PERIperl

PERIperl is a symbolic link to the `/opt/vps/packages/perlX.X.X/` directory. The directory and its symbolic link are created when the PERIperl package is installed. The PERIperl package is a custom distribution of the Practical Extraction and Reporting Language (PERL) interpreter.

PERItms

PERItms is a symbolic link to the `/opt/vps/packages/tmsX.X.X/` directory. The directory and its symbolic link are created when the PERItms package is installed. The PERItms package installs all files required to configure, load, and boot the TMS hardware.

PERIview

PERIview is a symbolic link to the `/opt/vps/packages/viewX.X.X/` directory. The directory and its symbolic link are created when the PERIview package is installed. The PERIview package contains the MPS Manager suite of graphical tools used for MPS administration, operation, and control. For more information, refer to the MPS Manager Reference Manual.

PERIpdp

PERIpdp is a symbolic link to the `/opt/vps/packages/pdpX.X.X/` directory. The directory and its symbolic link are created when the PERIpdp package is installed. The MPS Manager Data Provider (pdp) package contains the software that collects statistics and alarm data from nodes and components in a MPS Manager network.

tmscommN

The `tmscommN` directory represents a component group in MPS 3.5. It is responsible for managing bridging of calls across multiple MPS components in large scale systems. It corresponds to the `$MPSHOME/tmscommon/` directory and appears as `#tmscomm.N/<hostname>` on the component list. Only one TMS common component exists on any given node. For MPS 3.5, the Network Interface Controller Daemon (NCD) is the only process in this component group.

New Files

`MPSHOME/common/etc/tms.cfg`

The `tms.cfg` file is used to configure lines, spans, protocols, and other resources throughout the MPS. Because of the large scale integrated nature of the MPS architecture, this common file is used to provide a global configuration for the entire system.

New Package, Process, and Feature Configuration Files

Most packages, processes, and features that are new for MPS 3.5 employ configuration files for those entities. It is not within the scope of this document to provide the detail necessary to administrate those configurations. Refer to the MPS System Reference Manual for more information.

VPS 5.X/MPS Process Comparison Matrix

The following table provides a comparison of the VPS 5.X processes and their corresponding processes in MPS 3.5. For greater understanding, the MPS 3.5 processes are grouped under MPS component or major process group. Some of these components or process groups are new for MPS 3.5 and do not necessarily apply to the corresponding processes in VPS 5.X. For example, the VMM process in MPS 3.5 effectively replaces the SMP and ECD processes in VPS 5.X.

Important:

The common VOS component was introduced with Release 5.4.1. These processes were part of the VPS VOS component in Release 5.3.1 and earlier.

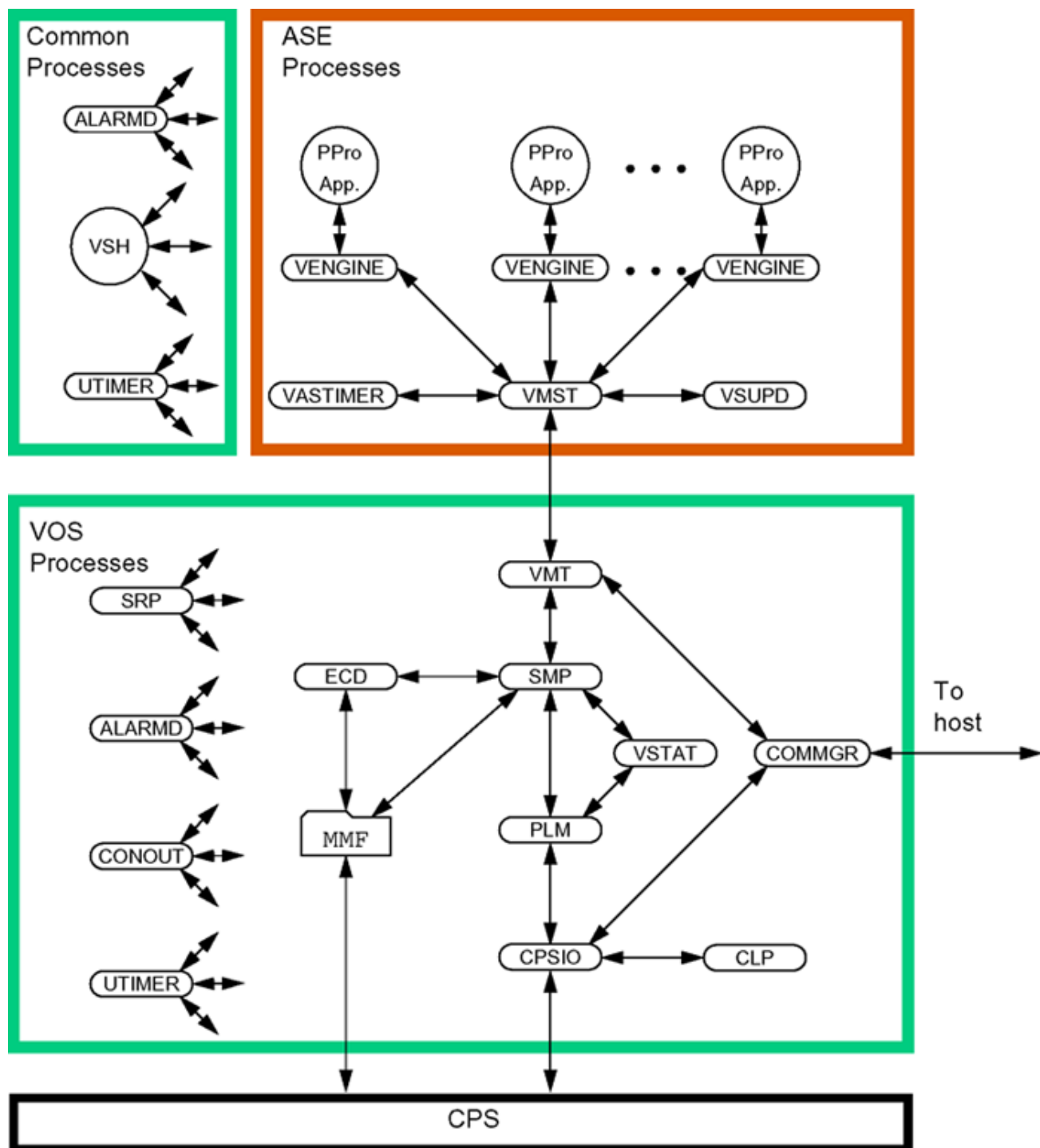
Table 2: Process Comparison Matrix

Component/Group	VPS 5.X	MPS 3.5	Description
ASE Processes	VENGINE	VENGINE	The ASE process group is functionally the same as the ASE for VPS 5.X. (See Application Services Environment (ASE))
	VMS/VMST	VMST	
	VASTIMER	--	
	VSUPD	VSUPD	
Common VOS Processes	ALARMD	ALARMD	Functionally equivalent to VPS 5.X.
	--	CONFIGD	The system wide configuration process. (See Configuration Daemon (CONFIGD).)
	UTIMER	--	
	VSTAT	VSTAT	Functionally equivalent to VPS 5.X.
	VMT	VAMP	VAMP is an interface between the Application Services Environment (ASE) and the Voice Operating Software (VOS).
	--	PMGR	New for MPS 3.5. Manages line pools and application resources on the local node. (See Pool Manager (PMGR).)
TMS Common Processes	--	NCD	One instance of NCD per node manages IP data communications over redundant system LANs and line bridging over the CT bus between all MPS components. Also manages master/slave operation of the dual NICs. (See Network Interface Controller Daemon (NCD))
VOS Processes	SRP	SRP	Functionally equivalent to VPS 5.X. (See Startup and Recovery Process (SRP).)

Component/Group	VPS 5.X	MPS 3.5	Description
	COMMGR	COMMGR	Functionally equivalent to VPS 5.X. (See Communications Manager (COMMGR).)
	PLM	CCM	Phone line configuration and resource allocation is now handled by CCM. (See Call Control Manager (CCM/CCMA).)
	CONOUT	CONOUT	Functionally equivalent to VPS 5.X.
	SMP	VMM	VMM now handles vocabulary management including MMF loading, memory mapping, and message translation. (See Voice Memory Manager (VMM).)
	ECD	--	--
	CLP	TCAD	TCAD is responsible for parsing TMS configuration files at startup and loading images and local resources. (See TMS Configuration and Alarm Daemon (TCAD).)
	CPSIO	TRIP	TRIP is responsible for most message transfers between the VOS and the LRM and ADSM ports of the TMS. (See TMS Routing Interface Process (TRIP).)

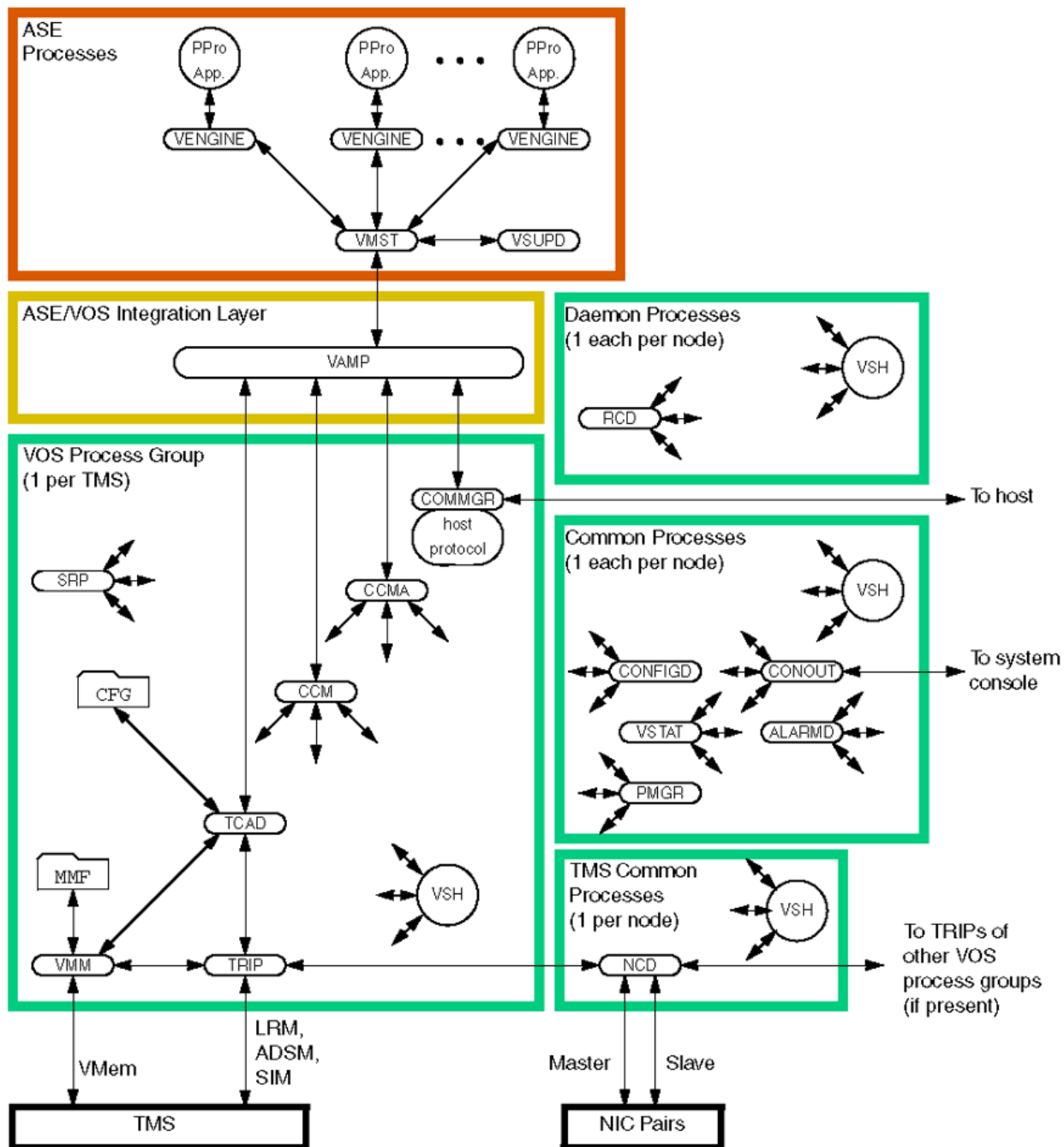
VPS 5.X Processes

The following illustration shows the functional arrangement of the ASE and VOS processes for VPS/is VPS 5.X. It is presented here for review and comparison to MPS 3.5 functional layers and processes, which are described in detail later in this section. For details on VPS/is VPS 5.X processes, refer to the VPS/is System Configuration Reference Manual.



MPS Processes

The following illustration shows the functional arrangement of the ASE and VOS processes groups for MPS 3.5. Many of the processes are similar to those of VPS 5.X. The new and revised processes are described in the subsequent paragraphs.



Application Services Environment (ASE)

The Application Services Environment (ASE) process group is comprised of software required to develop and execute applications. ASE processes include VENGINE, VMST, and VSUPD. A brief description of each process is given in the following table.

Process	Description
---------	-------------

VENGINE	The application execution process. One VENGINE process is required for each MPS application (call processing, web based, and administrative).
VMST	VENGINE Message Server - Extended. Manages MPS messages related to VENGINE applications. One VMST process is required per MPS component installed on the node.
VSUPD	Collects application-specific statistics (as opposed to system statistics).

ASE/VOS Integration Layer

This layer is used to convert and translate messages from the applications to the VOS processes. For MPS Developer applications, this layer communicates with the ASE processes, which in turn communicate with the applications themselves. VAMP is an interface between the Application Services Environment (ASE) and the Voice Operating Software (VOS).

The VAMP services application requests:

- Consolidate information (lines, resources, and so on) for applications.
- Consolidate information for commands issued by applications.
- Control line bridging based on Call Progress Detection information.
- Process resource control commands that can be directed to different resource providers and have different formats.

VOS Processes

The Voice Operating Software (VOS) process group is comprised of the main system software required to run the MPS system. VOS processes can be common (only one instance required per node) or MPS-specific (one instance required per MPS component). A brief description of each process is given in the following table.

Process	Description
ALARM (Alarm Daemon)	Collects alarm messages, writes them to the alarm log, and forwards them to any running alarm viewers.
CCM (Call Control Manager)	The primary interface between VAMP and the VOS services. Provides request synchronization and resource management.
COMMGR (Communications Manager)	Manages external host communications.
CONFIGD (Configuration Daemon)	System wide configuration process.
CONOUT (Console Output Process)	Relays output from VOS processes to the system console.
NCD (Network Interface Controller Daemon)	Controls interconnections between multiple TMS platforms attached to the NIC card.

Process	Description
nriod	Daemon responsible for remote input/output.
PMGR (Pool Manager)	Provides resource management, including resource allocation, resource de-allocation, and keeping track of resource allocation statistics.
rpc.riod	Daemon responsible for remote input/output (Solaris backward compatibility only).
TCAD (TMS Configuration and Alarm Daemon)	Provides loading, configuration, and alarm functions for TMS.
TRIP (TMS Routing Interface Process)	Acts as a router between the VOS and TMS.
VMM (Voice Memory Manager)	Provides media management services for the VOS.
VSTAT (VPS Statistics Manager)	Provides system (as opposed to application) statistics consolidation and reporting.

Transition Issues

Migrating to Avaya Media Processing Server (Avaya MPS)

This chapter contains issues and considerations for making the migration from a Release 5.X VPS/is to an Avaya MPS 1000 running MPS 3.5. First, general information and procedures are outlined for making the transition. Those procedures reference and are followed by more specific information about the MPS 1000 running MPS 3.5, such as applications and configuration.

The information in this chapter is based on the following assumptions:

Example

- You are upgrading from a VPS/is running VPS 5.X software (not from a VPS/sp or VPS/VAS running VOS 4.x).
- You are familiar with the existing system configuration and usage.
- Your MPS 1000 system is in place, configured, tested, and loaded with MPS 3.5 software by Avaya Global Customer Care Services (GCCS).
- You have a way to transfer files between the existing VPS/is system and the MPS 1000 (for example, network connection, removable media, and so on).
- You do not need to incorporate new features and functions specific to the MPS 1000 concurrently with the conversion (other than built-in features that are part of the MPS 3.5 software).
- All applications are stable and are not being modified, other than those changes required for MPS 3.5.

Before continuing, Avaya strongly recommends you:

Example

- Make disk/tape backups of all critical files on the VPS/is (including vocabularies, application source files, data files, and configuration files).
- Print out all configuration files.

Important:

Some procedures in this chapter reference other manuals or command reference pages. Read the referenced material before continuing with the procedure.

Unsupported Features

This section outlines features and tools for VPS/is that are not supported in MPS 3.5.

VSH Tool

The VSH tool is not supported in MPS 3.5. The tool cannot be launched from a command line and the icon does not appear on the PeriView tool bar. MPS 3.5 uses the VSH utility and with few exceptions, MPS command line functions are executed from within the Voice Shell (hereinafter called VSH). The VSH is entered by invoking the vsh utility in the current shell (Solaris) or in a Command Prompt window (Win32). For more information on VSH, see [VSH Tool Menu Options and MPS Command Equivalents](#).

PeriDoc

Browser-based HTML documentation is discontinued in MPS 3.5. PeriDoc cannot be launched from a command line and the icon does not appear on the MPS Manager tool bar. Instead, Avaya includes a set of Portable Document Format (PDF) files with the MPS.

Man Pages

Command line and HTML man pages are not supported in MPS 3.5. Information on MPS commands is now contained in the MPS Command Reference Manual. Information on MPS alarms is now contained in the MPS Alarms Reference Manual. Information on MPS conditions is now contained in the MPS Developer User's Guide.

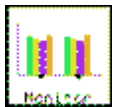
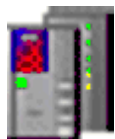
PrptSchedule Utility

On VPS systems, the PrptSchedule utility launched a dialog box for users to enter commands or arguments. Then PrptSchedule launched the Scheduler tool, which is a part of PeriView 1.x for VPS platform. The PrptSchedule utility is not supported on MPS platforms.

PeriView Tools and Equivalent MPS Tools

The following table displays the PeriView tool icons and their MPS equivalent tools, or states that the tool is not supported. The table also provides a brief explanation of each MPS Manager tool if it has changed, or if it has not changed, provides the location of the tool.

PeriView Tool	MPS Tool	Description/Location
 Launcher	MPS splash screen	MPS splash screen provides links to Documentation, MPS Manager and MPS Reporter.
 Application Manager (APPMAN)	 Application Configuration	Use the Application Configuration tool to configure an application's runtime environment parameters.

PeriView Tool	MPS Tool	Description/Location
	 Application Management	Use the Application Management tool to manage application and phone line resources.
 Activity Monitor	 Host Status	Use the Host Status tool to display the status of an external host. You can select to display host status based on either the VT number or the phone line number, with which the VT is associated.
	 Line Status	Use the Line Status tool to display phone line activity for components, phone lines, and applications.
	 Linked Application	Use the Linked Application tool to monitor phone line status of a currently executing main application and its linking activity, if any. Linking activity represents the activity between the main application and the linked applications, to which it links, during its execution cycle.
	 Span Status	Use the Span Status tool to display the state of digital spans (physical phone lines), graphically, on a per component basis.
 Alarm Viewer	 Alarm Filter	Use the Alarm Filter tool to define alarm filtering properties. Filtering allows you to control the alarms that display and are logged.
	 Alarm Viewer	Use the Alarm Viewer tool to view live and logged alarms.
 VSH Tool	Not supported	See the table VSH Tool Menu Options and MPS Command Equivalents

PeriView Tool	MPS Tool	Description/Location
 File Transfer	Not supported	
 Scheduler	Not supported	
 Spin	Not supported	
 PeriReporter Tools	 MPS Reporter Tools	To launch MPS Reporter, enter PeriReporter at the command line.
 PeriStudio	 MPS Studio	On Solaris systems, MPS Studio is launched by entering the following command at the command line: peristudio & On Windows systems, MPS Studio is launched from the Start menu. To start MPS Studio from the Start menu, select Start > Programs > Avaya > MPS Studio. You can also create a desktop shortcut on Windows systems.
 PeriProducer	MPS Developer	On Solaris systems, MPS Developer is launched by entering the following command at the command line: peripro & On Windows systems, MPS Developer is launched by entering the following command at the command line: peripro
 PeriWWWor d	Not supported	
 PeriSQL	MPS SQL	Access MPS SQL from the command line by entering the following command: perisql & You can also use an SQL block to access MPS SQL from MPS Developer. From an SQL block action window, select MPS SQL.

PeriView Tool	MPS Tool	Description/Location
 PeriDoc	External	Avaya documentation is available online in portable document format (PDF). This documentation is accessed through a Web browser by entering the address, https://enterpriseportal.avaya.com/ptlWeb/bp/products/P0631/AllDocumentati on and clicking on the Documentation hyperlink.

VSH Tool Menu Options and MPS Command Equivalents

On a system with multiple components, the VSH command displays the component list and prompts you to select the component with which VSH will interact. Most commands are associated with a particular process, and VSH must be running on the component where the process resides for that process' commands to execute. On a single component system, VSH defaults to the VOS subcomponent.

When operating in VSH, all native operating system commands are available, as well as VSH commands. That is, on a Solaris system, all commands available from the previous shell (e.g., csh) are available from VSH. On a Win32 system, all Windows 2003 commands are available from VSH.

The following table lists the VSH tool menu options and their corresponding MPS command line equivalent or command process. For detailed information on all MPS commands, see the MPS Command Reference Manual.

The following table lists the VSH tool menu options and the corresponding MPS command line equivalent or command process. For detailed information on all MPS commands, see the MPS Command Reference Manual.

VSH Tool Menu Option	Command or Command Process	Description
Comp	comp Utilities (see System in this table for a description of Command Line utilities.)	The comp command is an internal V-shell command that returns a complete list of VOS components currently configured on the system LAN. Components are shown as residing on the local node or network (remote), along with their status (up or down). A prompt to change the current component is also provided. Respond with the list number of the component you want to move to, or <Return> to cancel the move. comp may also be invoked with the target component specified by component name and host name, delimited by a slash (/) (as it appears on the component list).
Line	CCM Process	The Call Control Manager (CCM) module interacts with the VOS, along with applications, to service

VSH Tool Menu Option	Command or Command Process	Description
		each application per phone line for the duration of a call. When an application establishes a connection with the CCM, the CCM configures the phone line specific parameters.
Vocabulary	VMM Process commands	<p>VMM resides in the VOS subcomponent of the MPS component and provides media management services for the VOS. The VMM process is primarily responsible for:</p> <ul style="list-style-type: none"> • loading and managing VDM • loading and managing media MMF files both system wide and application specific (playback and record) • creating and managing hash tables of element names • performing hash lookups on behalf of CCM • performing on-line updates and deletes • receiving data for Ethernet-based Caller Message Recording (CMR) • maintaining media access related statistics (reference counts and cache hits, for example)
Host	COMMGR Commands	The COMMGR process provides a generic (i.e., protocol-independent) application interface for host communications services. It mediates the interaction between MPS applications and the protocol-layer process(es). The COMMGR is also responsible for the majority of data processing related to external communications, including configuration, application to- host

VSH Tool Menu Option	Command or Command Process	Description
		session mapping, and host input/output processing. A single COMMGR process runs on each MPS in the network.
System	Command Line Utilities	The MPS utilities allow you to monitor system events and interact with the MPS via a command line interface. Other utilities allow you to create/change/ acquire information on Multi-Media Files (MMFs). The system utilities are separate UNIX processes which run independently of the MPS system tasks (for example, CCM, VMM, and so on).
User	Not supported	
About	options utility help optarg utility	<ul style="list-style-type: none"> The options utility is used to display a list of commands for a particular process. Some of the commands listed are not documented in this manual. Those commands are for debugging and diagnostic purposes only, and are intended primarily for use by Certified Avaya Personnel. Some processes provide a command line help option. Use the options utility to see if a particular process provides a help option The optarg utility is used to display a quick reference of syntax, options, and arguments for a particular command.

Referral Applications

Environment and Configuration Parameters

Environment/configuration parameters controlling the pool of referral lines to be used by the VOS during dual-line referral and the hunt algorithm to be used (i.e., rline, eline, rinc, rdecr) are not supported.

Important:

Referral stats have been added for CAS protocols that support hook flash transfers: all other transfers for other protocols must be handle by the application.

Total Call Timer

The total call timer only expires once, generating a single "calltim" condition to the application. In VPS 5.X, the total call timer would expire and be reset. Thus, the "calltim" condition would be generated periodically at whatever interval the call timer was set to. In VPS 5.X the total call timer was set using the phone environment option "total" or the vsh option p# total=<val>. In MPS 3.5, the total call timer can be set using the phone environment option "total=<val>" or the vsh option c# setsvcparam totalcall=<val>.

Total Referral Timer

The total referral timer in VPS 5.X, "reftot" is not supported in MPS 3.5.

Commands Using Timers

Options for specifying time units in commands that use fast timers and scaled timers (primarily PLM) have changed in MPS 3.5. There is now only one standard timer. The following table outlines the differences between VPS 5.X and MPS 3.5 timer designations. The designation for time units is case insensitive. If the units are unspecified, the default (seconds) is used.

Designation	Time Units
u, U	Microseconds (MPS 3.5)
ms, Ms, mS, MS	Milliseconds; default for fast timers in VPS 5.X; MPS 3.5 does not differentiate between fast and scaled timers.
i, t	Not supported in MPS 3.5. Used to specify tenths of seconds in VPS 5.X.
s, S	Seconds; default for scaled timers in VPS 5.X; default for all timers in MPS 3.5.
m, M	Minutes (no change)
h, H	Hours (no change)

plm copy

The plm copy command is not supported in MPS 3.5.

plm manage

The plm manage command is not supported in MPS 3.5.

smp discstrip

The amount of audio data to be stripped from a disconnect ended CMR was previously specified in bytes. The length of audio data is now specified in milliseconds.

smp ttstrip

The amount of audio data to be stripped from a touch-tone ended CMR was previously specified in bytes. The length of audio data is now specified in milliseconds.

Differences in Call Statistics Collection

Call statistics are incremented and collected differently on an MPS system than on a VPS/is VPS 5.X system. On a VPS/is, statistics are collected by PLM. On an MPS, statistics are collected on the TMS, not by the CCM (the MPS equivalent to PLM). The type of statistics collected is also different on an MPS system. The VPS system supported CTI transfer referral statistics, dual line transfer referral statistics as well as hookflash referral statistics. The MPS system only supports hookflash referral statistics.

Because of the difference in the way call statistics are collected, the call statistics reports generated by MPS Reporter for MPS are different than those generated by PeriReporter for VPS/is. For example, one difference in the reports is how system abandoned calls are recorded.

System Abandoned Calls

On a VPS/is, system abandoned calls (SAB) are incremented when the PeriPro application executes a disconnect block and “mark as abandoned” is checked. On an MPS, SABs are incremented when the application issues a disconnect, either explicitly by using the MPS Developer Disconnect block or implicitly when the application finishes and recycles back to the Answer block. Thus, there is a much higher number of SABs reported on an MPS than a VPS/is and this is to be expected.

Speech Server Platform Issues

The issues involved with transiting from Speech Server Release 5 to Speech Server Release 6.5 are summarized on the following table. Use the Speech Server document family for information about Speech Server 6.5 resource processing.

Table 3: Transition From Speech Server 5 to Speech Server 6

Speech Server 5	Speech Server 6	Description
SRASIO Process	RCM Process	The SRASIO process does not exist in Speech Server 6.5. The RCM (Resource Control Manager) replaces SRASIO as the process that manages the Speech Server channel process on the Speech Server node.
srasio.cfg File	rcm.cfg	<p>The srasio.cfg file does not exist in Speech Server 6.5. It is replaced by the rcm.cfg and contains RCM parameters and values specific to Speech Server 6.5.</p> <ul style="list-style-type: none">• In Speech Server 5, SRASIO commands are issued in the srasio.cfg file. The srasio command must precede each option and value specified in the file. (Example: srasio numchannels 8)• In Speech Server 6.5, RCM commands are issued in the rcm.cfg file. The rcm command does not precede each option and value specified in the file. (Example:

Speech Server 5	Speech Server 6	Description
		numchannels 8)
srasio.tbl File	rcm.tbl	<p>The srasio.tbl file does not exist in Speech Server 6.5. It is replaced with the rcm.tbl file.</p> <ul style="list-style-type: none"> In Speech Server 5.0, the srasio.tbl file could have resided in \$OSCARHOME/common/etc or \$OSCARHOME/oscarN/etc. In Speech Server 6.5, the rcm.tbl file resides in \$OSCARHOME/oscarN/etc.
vos-links.cfg File		The vos-links.cfg file does not exist in Speech Server 6.5.
SRA (MSRA) Board	DCC Board	There is no SRA (MSRA) Board in Speech Server 6.5. It is replaced with the DCC Board that resides on the TMS. It is a different hardware board, supports a different number of channels and uses different protocols (Speech Server 5: TCP/IP; Speech Server 6.5: UDP) for the transfer of audio data.
ORM Process	PMGR Process	The ORM process does not exist in Speech Server 6.5. The Pool Manager (PMGR) process provides pooled resource management in the MPS environment, thus the resource allocation method is different. PMGR exists on every node in the MPS network. This includes all MPS nodes and all Speech Server nodes.
No Barge-In over TTS	Barge-In over TTS	In VPS/is 5.X, the barge-in over process was only available from a system prompt or a vocabulary item. Barge-in over using a tts prompt was not possible. In the Speech Server 6.5 you can barge-in over both a system prompt and a TTS prompt.

Speech Server 5	Speech Server 6	Description
Barge-In with PLM	Barge-In without PLM	<p>In Speech Server 5, barge-in could be set with a PLM option in the plm-postinit.cfg file. In Speech Server 6.5 and MPS 3.5 there is no PLM process or plm-postinit.cfg file. You can only set the barge-in option from the MPS Developer application with an ENVIRONMENT block using the rsconfig command.</p> <ul style="list-style-type: none"> • Set barge-in to off before a READ or SELECT block in the application. • Set barge-in to on before the prompt where barge-in is expected. Refer to the MPS Speech Server 6.5 • Reference Guide for additional information.
Bargeinevent command		The PLM command bargeinevent does not exist in Speech Server 6.5. Start of Speech (sos) is the event that aborts the MPS prompt for the phone line on which the application is executing.
No Prompts Played on Speech Server node	Prompts Played on MPS 1000 node	In Speech Server 6.5, no prompts are played from the Speech Server node. Prior to Speech Server 6.5 the following prompts were played from the Speech Server node: PreRecPrompt, PostRecPrompt, and SlowRecPrompt. You have the option of playing prompts from the MPS node that indicate something about a specific instance of recognition to the caller.
LVR and TTS sequentially	LVR and TTS simultaneously	In Speech Server 5 LVR and TTS resources could only be allocated sequentially. You must free a resource before allocating another resource. In Speech Server 6 LVR and TTS.
pmonitor		<p>Speech Server 5 required the entry pmonitor on the command line in the gen.cfg on Windows Speech Server nodes file for the Nuance processes RECSERVER, RESMANGER, and COMPSERVER, on Windows Speech Server nodes.</p> <p>In Speech Server 6.5, the pmonitor functionality is included in SRP (Startup and Recovery Process).</p>
GCL Abort Codes	GCL Abort Code additions	In Speech Server 6.5, the following abort codes were added.

Speech Server 5	Speech Server 6	Description
Recognition & Synthesis GCL Abort Codes	Recognition & Synthesis GCL Abort Code additions	<ul style="list-style-type: none"> For both Recognition and Synthesis resources, the following GCL Abort Codes are new in Speech Server 6.5: ABORT_VENDOR_ERROR Number of times recognition was aborted because of vendor input/output errors. ABORT_DEVICE_ERROR Number of times recognition was aborted due to device related failures such as failure to turn on streamer and failure to write data to streamer. ABORT_GUARD_TIMER Number of times recognition was aborted due to the firing of various guard timers such as timers for waiting DCC input or TTS output or the total recognition guard timer. ABORT_DEVICE_DISC In Speech Server 5, this abort code was named ABORT_SRA_DOWN. In Speech Server 6.5, the name was changed to ABORT_DEVICE_DISC. There is no SRA (MSRA) Board in Speech Server 6.5. It is replaced with the DCC Board that resides on the MPS 1000 node. The abort code ABORT_DEVICE_DISC indicates the number of times recognition was aborted because DCC board disconnected from the RCM process.
Recognition GCL Abort Codes	Recognition GCL Abort Code additions	<p>For Recognition resources, the following GCL Abort Codes are new in Speech Server 6.5:</p> <ul style="list-style-type: none"> ABORT_AUTOID_FAX Number of times recognition was aborted because the caller chose fax during Auto ID. ABORT_AUTOID_TT In Speech Server 5, this abort code was named ABORT_TT. In Speech Server 6.5, the name was changed to ABORT_AUTOID_TT. The abort code indicates the number of times recognition was aborted because the caller entered touchtones.
Synthesis GCL Abort Codes	Synthesis GCL Abort Code additions	<p>For Synthesis resources, the following GCL Abort Codes are new in Speech Server 6.5:</p>

Speech Server 5	Speech Server 6	Description
		<ul style="list-style-type: none"> ABORT_BARGEIN Number of times synthesis was aborted by caller's speech.
GCL values: 0, 1	GCL value added: 0, 1, 2	<p>In Speech Server 6.5, the value unknown (2), was added to the fields: AutoID Flag, Barge-in Flag, and Barge-in Status.</p> <p>In Speech Server 5.5, these fields could have a value of either 0 (off) or 1 (on).</p> <p>In Speech Server 6.5, these fields can have a value of either 0 (off), 1 (on), or 2 (unknown).</p>
Nuance and Retrieving Results with Call Functions	Nuance and Retrieving Results with avs-to-fol.	<p>Speech Server 5 supported using Call Functions from the libresults.so shared library (get_num_results, get_with_result and those used to retrieve number of interpretations and the interpretation for an Nth result).</p> <p>Speech Server 6.5 does not support Call Functions. Speech Server 6.5 supports the use of the assignment avs-to-fol for retrieving results returned from the recognizer.</p>
-d option in vos.cfg file enables SRASIO logging and sets level to verbose.	-d option in vos.cfg file enables RCM logging and sets level to normal.	<p>In Speech Server 5, the -d option in vos.cfg file enables SRASIO logging and sets the level to verbose.</p> <p>In Speech Server 6.5, the -d option in vos.cfg file enables RCM logging and sets the level to normal.</p> <p>Refer to the vos.cfg file in the Configuration Chapter of the MPS 3.5 Speech Server 6.5 Reference Guide.</p>
-d -s option in vos.cfg file enables shared library logging	-s option in vos.cfg file enables shared library logging	<p>In Speech Server 5, the -s option (shared library logging) can only be used when the -d option (srasio logging) is also specified in the vos.cfg file.</p> <p>In Speech Server 6.5, you can specify the -d option (rcm logging) and -s option (shared library logging) independently in the vos.cfg file. Refer to the vos.cfg file in the Configuration Chapter of the MPS 3.5 Speech Server 6.5 Reference Guide.</p>

Speech Server 5	Speech Server 6	Description
srasio logging	rcm logging	<p>In Speech Server 5, you could not set the level of SRASIO system or channel logging. However, you could set the level of shared library logging with the -s (normal, detail, verbose).</p> <p>In Speech Server 6.5, you can set the level of both RCM and shared library logging. Refer to the rcm.cfg file in the Configuration Chapter of the MPS 3.5 Speech Server 6.5 Reference Guide.</p>
All alarms viewable from the Alarm Viewer tool.	Most usable alarm information viewable from the Alarm Viewer tool. Remaining alarms written to a Debug Information Log file.	<p>In Speech Server 6.5, all alarm information was written to the alarm log files, which you can view with the Alarm Viewer.</p> <p>In Speech Server 6.5, the alarms visible with the Alarm Viewer tool contain alarm information that can be most helpful to the user. More technical information, which you can use for debugging purposes, is written to a Debug Information Log. You can display this text file with a text editor tool (such as WordPad or NotePad). Typically, you do not need to refer to this file. However, it can contain valuable debugging information and you can use it if necessary. Logging of this technical information is enabled, by default, at system startup. The log file resides to the default directory: %OSCARHOME%\common\log\dlog</p> <p>The Debug Information Log file is named in the format: <process_name>_def.oscar.<oscar_component_number>.dlog Examples: rcm_def.oscar.36.dlog. For additional information, refer to the Alarm chapter of the MPS 3.5 Speech Server 6.5 Reference Guide.</p>
TCP Protocol	RTP Protocol	<p>Speech Server 5 relies on TCP to send audio data. There can be no loss of audio data with TCP.</p> <p>The Speech Server 6.5 uses UDP for audio data. Audio data is shipped as UDP packets. Audio data is shipped as UDP packets. The size of an UDP packet can be 0-2000 bytes. Although Speech Server 6.5 uses UDP, and while UDP packets can differ in size, the DCC 3000 uses 1k packets. The vendor software is fed 1k chunks of data for recognition and 1k chunks of data for synthesis from the Speech Server to the DCC 3000.</p>

Speech Server 5	Speech Server 6	Description
Limitations specified	Limitations dependent on System resources.	<p>Speech Server 5 specific system limitations are documented. In Speech Server 6.5, limitations to items listed below are based on system resources and performance. Contributing factors can include: CPU power, memory, grammar size and complexity for recognition resources (LVR), and the size of user dictionary for speech synthesis resources (TTS).</p> <ul style="list-style-type: none"> • Number of resource channels configured for an Speech Server node. • Number of DCC 3000 boards to which the Speech Server node connects. (However, a maximum of 32 Speech Server nodes can connect to a single DCC 3000 board.) • Length of Label names.

Environment Variables

Many of the environment variables that are defined or modified using the MPS Developer ENVIRONMENT block have no function in MPS 3.5 and therefore are not supported. Others that are supported are interpreted differently and therefore necessitate modification of applications.

While some environment variables are converted into a new block, some are either renamed and convert automatically or have been retained for legacy applications only.

A complete listing of the standard environment variables and their support is provided in the following table.

Table 4: Support for Environment Variables in MPS

Environment Class	Option	Support
Phone Environment	answer	Not supported
	Bargein	Supported on conversion only.
	bargeinevent	Not supported
	edit	Not supported, manually replace with Edit Sequence block.
	ekeybd	Not supported, manually replace
	emess	Not supported.
	eopt upon conversion.	Not supported
	eretry	Not supported

Environment Class	Option	Support
	first	Not supported, manually replace with Edit Sequence block.
	fkeybd	Not supported
	fmess	Not supported
	fopt	Not supported
	fretry	Not supported
	keybd	Not supported
	imess	Not supported
	inter	Supported, renamed DtmfInter
	iopt	Not supported
	iretry	Not supported
	keepterm	Not supported, manually replace with Edit Sequence block.
	termchar	Not supported, manually replace with Edit Sequence block.
	timeout	Not supported (alarms are suppressed)
	tnabort	Not supported
	tnext	Not supported
	tnull	Not supported
	total	Supported, renamed to LineTotalCall upon conversion. (See Total Call Timer)
	trepeat	Not supported
	typeahead	Not supported
	tzone	Not supported
Phone Line Task Environment	autoid	Supported only on conversion
	backsp	Not Supported. Use Edit Sequence.

Environment Class	Option	Support
	busy	Supported, renamed to LineStandbyMode upon conversion.
	callref	Not supported, manually replace with Edit Sequence block.
	clear	Supported only on conversion
	delete	Not supported, manually replace with Edit Sequence block.
	e0text - e3text	Not supported, manually replace with Edit Sequence block.
	getring	Not supported
	noanswer	Supported, renamed to LineStandbyMode upon conversion.
	repeat	Not supported, manually replace with Edit Sequence block.
	vrepeat	Not supported
	xterm	Not supported
Phone Resource Server Environment	prs	Not supported
	abeep	Not supported
	asetup	Not supported
	cdtmf	Not supported
	echo	Not supported
	idle	Not supported
	rsconfig	Supported, renamed to RscConfig upon conversion.
	smaxlen	Not supported
	smaxres	Not supported
	sminlen	Not supported
	srecord	Not supported

Environment Class	Option	Support
	tfield	Not supported
	tfinal	Not supported
	tfirst	Not supported.
Message Recording Environment	firstsil	Supported, renamed to RecFirstSil upon conversion
	intersil	Supported, renamed to RecInterSil upon conversion
	maxreclength	Not supported. Set in Record Block
	silstrip	Supported, renamed to RecSilStrip upon supported
Speech Management Environment	clear	Supported on conversion only.
	vioabort	Supported. Converts to an Abort Block.
Host Environment	er	Supported
	freevt	Supported, renamed SendHost Block on conversion.
	getvt	Supported, renamed SendHost Block on conversion.
	headermode	Supported
	hostctl	Supported
	intime	Supported
	parameter	Supported, renamed SendHost Block on conversion.
	refer	Supported
	rfno	Supported
	session	Supported
	setaid	Supported
	unlocks	Supported

Environment Class	Option	Support
	usepool	Supported
Advanced Phone Line Management	phone	Not supported
	capdtmf	Not supported
	capmf	Not supported
	captd	Not supported
	detect	Supported on conversion only
	dfirst	Not supported
	dinter	Not supported
	disc	Not Supported
	dtmf	Supported, renamed DtmfToneDur on conversion.
	eline	Not supported
	endtone	Not supported
	fconnect	Supported upon conversion only
	finish	Not supported
	flash	Not supported
	gobusy	Not supported
	guard	Supported, renamed DtmfGuard upon conversion. Set to on or off only.
	indial	Not supported
	keyin	Not supported
	keyout	Not supported
	mftone	Not supported
	nansup	Not supported
	nofhook	Not supported
	rend	Not supported

Environment Class	Option	Support
	reortext	Not supported
	reset	Not Supported
	ringback	Not supported
	ringtext	Not supported
	rline	Not supported
	rvalid	Not supported
	sendcp	Not supported
ISDN Environment	cats	Not supported
	ccode	Not supported
	cproc	Not supported
	smrt	Not supported
	udata	Not supported
Optional Exception Conditions	crefer	Not supported
	crepeat	Not supported
	rngback	Not supported
	uedit3	Not supported
VENGINE Environment	alarmdbtask	Supported
	apprestart	Supported
	centurymark	Supported
	debug	Supported
	deltimedcall	Not supported
	hnowait	Not supported
	intermsg	Supported
	mode	Supported
	notice	Supported

Environment Class	Option	Support
	numset	Supported
	rscertime	Supported
	rscintime	Supported
	setvpsline	Supported
	softterm	Supported
	speak	Supported
	timedcall	Not supported
	unnotice	Supported
	vmstimedcall	Not supported
	vpsrcvtime	Supported
	webtimeout	Supported

Exception Conditions

Many of the exception conditions that are handled using the MPS Developer HANDLE block have no function in MPS 3.5 and therefore are not supported. A complete listing of the standard conditions and their support is provided in the following table.

Important:

A \$ condition is a 3.xx translation of a 2.30 condition. It can contain one or more conditionstatus pairs. The 2.30 conditions are automatically converted to 3.xx conditions.

Important:

Unsupported conditions are not removed from the HANDLE block upon conversion. This is deliberate because an application may issue a condition with any name.

Table 5: Support for Application Exception Conditions in MPS

Category	Condition	Support
Application Management Exception Condition	abend Supported	Supported
	altlinkdown Supported	Supported
	asynccdata	Not supported
	asynccfail Not supported	Not supported
	avserr Supported	Supported
	deadlock	Supported

Category	Condition	Support
	error	Supported
	ertimeout	Supported, renamed \$ertimeout upon conversion.
	expired	Supported
	getfail	Supported, renamed \$getfail upon conversion.
	intertimeout	Supported, renamed \$intertimeout upon conversion.
	invreq	Supported
	linkdown Supported	Supported
	lockfail Supported	Supported
	modvar Supported	Supported
	norestart Supported	Supported
	notfnd Supported	Supported
	pgid Supported	Supported
	pgml Supported	Supported
	pgun Supported	Supported
	resume fail Supported	Supported
	vrto Supported	Supported
	webtimeout	Supported
Phone Line/Speech Data/ Timeout Conditions	ansfail	Supported, renamed answerfail upon conversion.
	autofail	Supported, renamed detinputfail upon conversion.
	autotim	Supported, renamed detinputcmpTimeout upon conversion.
	calltim	Supported
	chartim	Supported, renamed getinputfail-ErrInter upon conversion.

Category	Condition	Support
	crepmax	Not supported
	discfail	Supported, renamed \$discfail upon conversion.
	firstim	Supported, renamed \$frstim upon conversion.
	oa	Supported, renamed Speakcmp-Abort upon conversion.
	oc	Supported, renamed to \$oc upon conversion.
	of	Supported, renamed \$oc upon conversion.
	rinfail	Supported, renamed alertfail upon conversion.
	ttfail	Supported, renamed to \$ttfail upon conversion.
	uedit0	Supported
	uedit1	Supported
	uedit2	Supported
	uedit3	Supported
	unexphone	Supported
Phone Line Management Status/Exception Conditions	conn	Supported, renamed answercmp upon conversion.
	crefer	Not supported
	crepeat Not supported	Not supported
	disable Not supported	Not supported
	disc	Supported, renamed \$disc upon conversion.
	enable Not supported	Not supported
	faxdet	Supported, renamed detinputcmp-FAX upon conversion.
	forward Not supported	Not supported

Category	Condition	Support
	green Not supported	Not supported

MPS Manager Global Configuration

The Global Configuration tool is used to configure the most common properties in MPS Manager. These properties apply to all users.

Connection Retry Time Interval

When disconnection occurs between MPS Manager and the MPS Manager Data Provider (MMDP), MPS Manager attempts to establish the connection again. This setting (in seconds) determines the time interval between the attempts made for connection. MPS Manager continues to attempt to connect until it is successful. The default setting for this interval is 10 seconds.

Remote File Read/Write Timeout

For file operations, MPS Manager by default starts a timer after a file-related request is sent. MPS Manager waits for a time interval specified in this setting (in seconds). If there is no response for the request sent, MPS Manager discards the request and informs the user. The default setting for this interval is 30 seconds.

Profile Load Timeout Interval

MPS Manager provides support for profiles. In case of a connection-related problem, a profile may not be loaded as soon as the user selects it. This time interval specifies the time for MPS Manager to attempt to

reload a profile. If the specified time expires and the selected profile has not loaded successfully, MPS Manager stops loading the profile and informs the user. The default setting for this interval is 30 seconds.

Number of Configuration Files to Back Up

This setting defines the number of file back-ups allowed for configuration file. For example, in cluster redundancy configuration, the tms.cfg and vpshost.cfg files on all the nodes in a redundancy group are backed up. The reference range is between 0 and 10.

SMTP Server Name—For Client-based MPS Manager Only

The information in this text box is used for MPS Manager fault handling of FAULT_USER_ACTION, which sends e-mail messages of fault information to the user-specified e-mail address. This setting must be valid for FAULT_USER_ACTION fault handling to be in effect.

Sender E-mail—For Client-based MPS Manager Only

The information in this text box is used for MPS Manager fault handling of FAULT_USER_ACTION, which sends e-mail messages of fault information to this user-specified e-mail address. This setting must be valid for FAULT_USER_ACTION fault handling to be in effect.

V-Shell (vsh) Commands

V-Shell (vsh) Commands - An Overview

This chapter contains an overview of how the Avaya Media Processing Server (MPS) 1000 supports V-shell commands. V-shell commands are executed at the command line in a Solaris command tool, or in a Windows Command Prompt window with the V-shell (vsh) invoked. For more comprehensive information about V-shell commands on the Avaya Media Processing Server (Avaya MPS), refer to the MPS Command Reference Manual.

Important:

MPS 3.5 does not support the VSH Tool, see [VSH Tool Menu Options and MPS Command Equivalents](#).

Except for common commands and utilities, vsh commands are associated with a VOS process. Most VOS processes are functionally unchanged between VPS 5.X and MPS 3.5. Therefore, most of the commands associated with those processes are still supported. Two notable exceptions are the PLM and SMP processes that were replaced primarily by the new CCM and VMM processes in MPS 3.5. The [Command Cross Reference](#) in the following section indicates command support for processes that are essentially unchanged, and equivalent commands for processes that have been replaced. Commands that are associated with MPS 3.5 processes are provided under [vsh Commands for MPS](#).

Command Cross Reference

The table that follows contains a cross reference of the vsh commands for VPS 5.X and MPS 3.5. The first column lists the VPS 5.X commands in alphabetical order under theThe table that follows contains a cross reference of the vsh commands for VPS 5.X and MPS 3.5. The first column lists the VPS 5.X commands in alphabetical order under the corresponding process. The second column describes how each command is supported in MPS 3.5. The following is a description of the contents of this column:

Example

- Supported - Indicates full support (i.e., identical syntactic and functional usage) between VPS 5.X and MPS 3.5.
- Modified - The command name is the same in MPS 3.5 as in VPS 5.X. However there have been some syntactic or functional changes. Refer to the MPS Command. Reference Manual for details.

- **<command> (New or Modified)** - Indicates the equivalent command to use to perform a similar task. In some cases, only the process name is different. Some functionality might also be different. Refer to the MPS Command Reference Manual for details. A complete list of commands that are new for MPS 3.5 is presented under vsh Commands for MPS.
- **Not supported** - Indicates no support for the command. In most cases, the function or task performed by the command is obviated by the MPS 1000 MPS 3.5 architecture.

Important:

The commands listed in the following table comprise a complete list of commands in the latest version of the VPS 5.X. Earlier versions of VPS 5.X might not support all these commands.

Table 6: V-Shell Command Cross Reference

VPS 5.X Command	MPS 3.5 Support
ATTE Process Commands	
atte autoconnect	Supported
atte autocrlf	Supported
atte autonl	Supported
atte baud	Supported
atte bits	Supported
atte device	Supported
atte eol	Supported
atte hostname	Supported
atte maxvt	Supported
atte mode	Supported
atte parity	Supported
atte show-conf	Supported
atte show-scb	Supported
atte show-telnet	Supported
atte show-tty	Supported
atte show-vt	Supported
atte sol	Supported
atte status	Supported

VPS 5.X Command	MPS 3.5 Support
atte stopbits	Supported
atte termtype	Supported
atte type	Supported
atte vt	Supported
atte xeol	Supported
COMMGR Process Commands	
commgr aiddefault	Supported
commgr appcode	Supported
commgr assignvt	Supported
commgr async	Supported
commgr bautoload	Not supported
commgr board	Not supported
commgr bvocab	Supported
commgr commbd	Not supported
commgr ctran	Supported
commgr display	Supported
commgr er	Supported
commgr file	Not supported
commgr generic	Not supported
commgr h9status	Supported
commgr hautoload	Not supported
commgr hdebug	Not supported
commgr headermode	Supported
commgr hostctl	Supported
commgr intime	Supported

VPS 5.X Command	MPS 3.5 Support
commgr kill	Not supported
commgr load	Not supported
commgr mode	Supported
commgr noappcode	Supported
commgr nonsequential	Supported
commgr parameter	Supported
commgr pool	Supported
commgr poolinitrequest	Supported
commgr poolrequest	Supported
commgr poolstatus	Supported
commgr pooltimeout	Supported
commgr portid	Not supported
commgr protocol	Supported
commgr read Supported	Not supported
commgr refer	Supported
commgr remove_vt Supported	Supported
commgr rfno Supported	Supported
commgr sendtext Supported	Supported
commgr sequential Supported	Supported
commgr session Supported	Supported
commgr sfile Not supported	Not supported
commgr status Supported	Supported
commgr stran Supported	Supported
commgr unassignvt Supported	Supported
commgr unix	Not supported

VPS 5.X Command	MPS 3.5 Support
commgr usepool Supported	Supported
commgr vtlist Supported	Supported
commgr wvocab Supported	Supported
Common Commands	
conman	Not supported
optarg	Supported
options	Supported
vpsalarm	Not supported
vpsman	Not supported
PLM Process Commands	
plm abeep	Not supported
plm able	Not supported
plm asetup	Not supported
plm assign	Not supported
plm att	Not supported
plm autoid	Not supported
plm backsp	c#-# seteditseq
plm baker	Not supported
plm bctt	Not supported
plm bcvoc	Not supported
plm bill	Not supported
plm blind	Not supported
plm boot	Not supported
plm break	Not supported
plm brtt	Not supported

VPS 5.X Command	MPS 3.5 Support
plm brvoc	Not supported
plm busy	c#-# deflinestate busy or c#-# setsvcpam deflinestate busy
plm callref	Not supported
plm capdtmf	Not supported
plm capmf	Not supported
plm card	Not supported
plm cbstand	Not supported
plm cdtmf	Not supported
plm charlie	Not supported
plm clist	Not supported
plm close	Not supported
plm cmlist	Not supported
plm cmusage	Not supported
plm cpansup	Not supported
plm cpause	Not supported
plm cpdial	Not supported
plm cpdisc	Not supported
plm crdlog	Not supported
plm create	Not supported
plm crefer	Not supported
plm crepeat	Not supported
plm cuinit	Not supported
plm cusage	Not supported
plm ddi	Not supported
plm decide	Not supported

VPS 5.X Command	MPS 3.5 Support
plm delete	c#-# seteditseq
plm detect	Not supported
plm device	Not supported
plm dfirst	Not supported
plm dinter	Not supported
plm disc	Not supported
plm ditto	Not supported
plm dog	Not supported
plm dtmf	c#-# setsvcparam tonedur
plm dump	Not supported
plm e0text	c#-# seteditseq
plm e1text	c#-# seteditseq
plm e2text	c#-# seteditseq
plm e3text	c#-# seteditseq
plm earth	Not supported
plm echo	Not supported
plm edit	c#-# diseditseq c#-# eneditseq
plm ekeybd	Not supported
plm eline	Not supported
plm emess	Not supported
plm enable	Not supported
plm endtone	Not supported
plm environment	Not supported
plm eopt	Not supported
plm equate	Not supported

VPS 5.X Command	MPS 3.5 Support
plm eretry	Not supported
plm failure	Not supported
plm fatal	Not supported
plm fconnect	Not supported
plm finish	Not supported
plm first	c#-# setsvcpam first
plm fkeybd	Not supported
plm flash	Not supported
plm fmess	Not supported
plm fopt	Not supported
plm fretry	Not supported
plm galaxy	Not supported
plm getwink	Not supported
plm glare	Not supported
plm gndet	Not supported
plm grab	Not supported
plm guard	c#-# setsvcpam dtmfguard
plm hang	Not supported
plm hctt	Not supported
plm hcvoc	Not supported
plm hit	Not supported
plm hiway	Not supported
plm hrtt	Not supported
plm hrvoc	Not supported
plm hspan	Not supported

VPS 5.X Command	MPS 3.5 Support
plm iconnect	Not supported
plm ikeybd	Not supported
plm imess	Not supported
plm indial	Not supported
plm inonly	Not supported
plm install	Not supported
plm inter	c#-# setsvcpam inter
plm iopt	Not supported
plm iretry	Not supported
plm isdnlk	Not supported
plm keepterm	c#-# seteditseq
plm keyin	Not supported
plm keyout	Not supported
plm kill	c#-# dlogdbgoff
plm label	Not supported
plm lcsi	Not supported
plm listen	c# listen
plm logoff	Not supported
plm logon	Not supported
plm logwhat	Not supported
plm lvalid	Not supported
plm make	Not supported
plm manage	Not supported
plm match	Not supported
plm maxmiss	Not supported

VPS 5.X Command	MPS 3.5 Support
mftone plm	Not supported
plm nansup	Not supported
plm noanswer	c#-# deflinestate noanswer or c#-# setsvcpam deflinestate noanswer
plm nohook	Not supported
plm notone	Not supported
plm number	Not supported
plm odigit	Not supported
plm offhook	Not supported
plm olcsi	Not supported
plm onhook	Not supported
plm origin	Not supported
plm package	Not supported
plm pause	Not supported
plm pdial	Not supported
plm pickup	c#-# setsvcpam pickup
plm plcrdy	Not supported
plm plog	Not supported
plm prisdn	Not supported
plm pwatch	Not supported
plm rdecr	Not supported
plm reftot	Not supported
plm release	Not supported
plm rend	Not supported
plm reortext	Not supported
plm repeat	Not supported

VPS 5.X Command	MPS 3.5 Support
plm report	c#-# repsvcpams
plm reset	c#-# reset
plm rfixed	Not supported
plm rhiway	Not supported
plm rincr	Not supported
plm ringtext	Not supported
plm rline	Not supported
plm rscconfig	Not supported
plm rscmode	Not supported
plm rshare	Not supported
plm rspan	Not supported
plm rstop	Not supported
plm rtwfxo	Not supported
plm rtype	Not supported
plm rvalid	Not supported
plm rvline	Not supported
plm saw	ccm dlogdbgoff
plm secure	Not supported
plm see	ccm dlogdbgon
plm sendcp	Not supported
plm setup	Not supported
plm shake	Not supported
plm stamp	Not supported
plm status	ccm status or c#-# status
plm staybusy	Not supported

VPS 5.X Command	MPS 3.5 Support
plm summary	Not supported
plm sync	Not supported
plm termchar	c#-# seteditseq
plm test	Not supported
plm threshold	Not supported
plm timeout	Not supported
plm timespan	Not supported
plm tnaabort	Not supported
plm tnext	Not supported
plm tnull	Not supported
plm tone	Not supported
plm total	c#-# setsvcpam totalcall
plm towink	Not supported
plm tpickup	Not supported
plm trepeat	Not supported
plm ttclear	c#-# ttclear
plm twfxo	Not supported
plm typeahead	Not supported
plm tzone	Not supported
plm uinit	Not supported
plm unlabel	Not supported
plm usage	Not supported
plm verbose	Not supported
plm vpsrdy	Not supported
plm vspan	Not supported

VPS 5.X Command	MPS 3.5 Support
plm wait	Not supported
plm watch	Not supported
plm window	Not supported
plm wink	Not supported
plm wordset	Not supported
plm xhiway	Not supported
plm xterm	Not supported
plm xwipe	Not supported
plm zvpobj	Not supported
SMP Process Commands	
smp actconfig	vmm repconfig
smp activate	vmm mmfload
smp appinit	vmm appinit
smp appremove	vmm appremove
smp appstatus	vmm appstatus
smp clrdskstat	vmm clrcachestat
smp clrlstat	Not supported
smp clrpystat	Not supported
smp clrrcstat	Not supported
smp clrrfstat	vmm clrrfstat
smp cmrterm	Not supported
smp controller	vmm controller
smp deactivate	vmm mmfunload
smp debug	Not supported
smp default	Not supported

VPS 5.X Command	MPS 3.5 Support
smp delete	vmm delete
smp discstrip	c#-# setsvcpam discstrip
smp dskstatus	vmm cachestatus and vmm loadqrep
smp gencapsize	vmm dlogcapsize
smp gencapture	vmm dlogcapon gen
smp genlog	vmm dlogdbgon gen
smp genreport	vmm status
smp hwm	vmm sethwm
smp linecapoff	vmm dlogcapoff line=<>
smp linecapon	vmm dlogcapon line=<>
smp linecapsize	vmm dlogcapsize
smp linelogoff	vmm dlogdbgoff line=<>
smp linelogon	vmm dlogdbgon line=<>
smp linereport	Not supported
smp linestatus	c#-# status or ccm status
smp loadall	vmm loadall
smp logconfig	vmm dlogdbglist
smp lookahead	Not supported
smp lwm	vmm setlwm
smp maxreclength	Not supported
smp maxreclines	Not supported
smp mmfadmline	Not supported
smp mmfstatus	vmm mmfstatus
smp mmfsync	Not supported
smp nload	vmm nload

VPS 5.X Command	MPS 3.5 Support
smp numapps	vmm apphtsize
smp nummmfs	vmm mmfhtsize
smp pagesize	vmm pagesize
smp paging	Not supported
smp playstatus	Not supported
smp record	vmm mmfrecord
smp recstatus	Not supported
smp refstatus	vmm refstatus
smp silthresh	c#-# setsvcpam silthresh
smp szapptbl	vmm lochtsize
smp szsystbl	vmm syshtsize
smp ttstrip	c#-# setsvcpam ttstrip
smp update	vmm mmfupdate
smp vdmstatus	vmm cachestatus
smp virtualall	Not supported
smp voiceconfig	vmm repconfig
Command Utilities	
alarm	Supported
alm	Supported
cmrconv	Supported
cmrexpert	Supported
comp	Supported
corbaInt	Supported
dbcoppy	Supported
dbman	Supported

VPS 5.X Command	MPS 3.5 Support
def12mmf	Supported
--	Dlt
docupdate	Not Supported
log	Supported
mblock	Supported
mdump	Supported
mfck	Supported
mgrow	Supported
mkmf	Supported
mls	Supported
mmf2def1	Supported
mmfExport	Supported
mvcmp	Supported
perimap	Supported
peripro	Supported
periq	Supported
perirev	Supported
peristudio	Supported
pproinfo	Supported
sqlclnt	Supported
srp	Supported
tappman	Supported
tiff2vps	Not supported
tiffinfo	Not supported
upgrademmf	Supported

VPS 5.X Command	MPS 3.5 Support
vassm	Supported
vftpd	Supported
vhman	Supported
vlis	Supported
voc2mmf	Supported
vps2tiff	Not supported
vsh	Supported
vspdr	Supported
vsupd	Supported
vtcpd	Supported
xvhman	Supported
zap	Supported
vsh	Supported
VPSTN3270 Commands	
vpstn3270 autoconnect	Supported
vpstn3270 connect	Supported
vpstn3270 disconnect	Supported
vpstn3270 hostname	Supported
vpstn3270 init	Supported
vpstn3270 maxvt	Supported
vpstn3270 path	Supported
vpstn3270 port	Supported
vpstn3270 show-conf	Supported
vpstn3270 show-scb	Supported
vpstn3270 show-vt	Supported

VPS 5.X Command	MPS 3.5 Support
vpstn3270 vthost	Supported
vpstn3270 vtpath	Supported
vpstn3270 vtport	Supported
VSTAT Process Commands	
Supported	Supported
Supported	Supported
Supported	Supported
Supported	Supported

vsh Commands for MPS

This section provides complete listings of the vsh commands associated with processes for MPS 3.5. These commands are in addition to the VPS 5.X commands that are still supported as described under [Command Cross Reference](#).

Call Control Manager (CCM) Process Commands

The CCM process in MPS 3.5 performs many of the same functions of PLM in VPS 5.X. Most PLM commands allowed invocation using the process name (plm), a valid phone line, or range of lines (p#[-#]). For most CCM commands, only a valid line or range of lines (c#[-#]) is permitted. Exceptions are the process-wide usage of the ccm status command, and invocation of DLOG options for CCM. (See [Diagnostic Logging and Tracing \(DLT\) Commands](#))

Table 7: CCM Process Commands

command - option	Description
c#-# brglist	Reports if any bridges exist in TMS for a line, and displays a list of all bridges created by that line.
c#-# clearstats	Clears statistics for CPD, FAX, INPUT, LVR, PLAY, REC, SVCHOFF, and TTS.
c#-# deflinestate	Sets the default state between calls for CCM and the phone line resource.
c#-# diseditseq	Disables user edit sequences.
c#-# dumpappstack	Displays information on the applications that are currently in the application stack (for example, utilizing the handoff feature to pass a line to another application for call processing).
c#-# eneditseq	Enables user edit sequences.
c# help	Displays syntax and usage information for the specified command.
c# # inservice	Conditionally places the phone port in-service.

command - option	Description																																											
	<p>The phone port will either remain out-of-service or go in-service depending on the direction of thephone port as well as the application bind state.</p> <p>The following table summarizes this:</p> <table><tr><td></td><td colspan="8">Phone port direction</td></tr><tr><td></td><td>I</td><td>IN</td><td>I</td><td>OUT</td><td>I</td><td>IN/OUT</td><td>I</td><td></td></tr><tr><td rowspan="3">Application bind state</td><td>BOUND</td><td>I</td><td>IS</td><td>I</td><td>IS</td><td>I</td><td>IS</td><td>I</td></tr><tr><td>UNBOUND</td><td>I</td><td>OOS</td><td>I</td><td>IS</td><td>I</td><td>IS</td><td>I</td></tr><tr><td colspan="8">Key: IS = In-Service, OOS = Out-Of-Service</td></tr></table>		Phone port direction									I	IN	I	OUT	I	IN/OUT	I		Application bind state	BOUND	I	IS	I	IS	I	IS	I	UNBOUND	I	OOS	I	IS	I	IS	I	Key: IS = In-Service, OOS = Out-Of-Service							
	Phone port direction																																											
	I	IN	I	OUT	I	IN/OUT	I																																					
Application bind state	BOUND	I	IS	I	IS	I	IS	I																																				
	UNBOUND	I	OOS	I	IS	I	IS	I																																				
	Key: IS = In-Service, OOS = Out-Of-Service																																											
c# listen	Enables half duplex listening on a single phone line.																																											
c#-# maxcacheloadsize	Sets the maximum number of pages in a single cache load request.																																											
c#-# outofservice	Forces the phone port to go out-of-service. The only way to place the phone port back in service is by using the "cx inservice" console option, or by rebooting the MPS (assuming the out-ofservice option does not exist in ccm_phoneline.cfg																																											
c#-# repeditseq	Displays a list of the current user edit sequence settings for the specified phone line.																																											
c#-# repstats	Displays CCM statistics report.																																											
c#-# repsvcparams	Displays a list of the current service parameter settings for the specified phone line.																																											
c#-# reset	Disconnects and releases all resources associated with the specified phone line.																																											
c#-# rsetprofile	Displays the RSet profile CCM used at startup to create the RSet.																																											
c#-# rsetstatus	Displays a resource set (RSet) status report.																																											
c#-# setautocvm	Configures CCM for Automatic Call-flow Verification (ACV).																																											
c#-# seteditseq	Configures a user edit sequence.																																											
c#-# setsvcpam aolay	aolay = [ON or OFF] This service parameter is used to enable/disable the ability to overlay audio on top of video. ON - Allow audio to overlay video. A video play can be started followed immediately by an audio play. The audio and video plays will be executing concurrently OFF - Disallow audio from overlaying video.																																											
c#-# setsvcpam cpdminsil	Sets the minimum amount of silence required for the CPD resource to generate a SILENCE event.																																											
c#-# setsvcpam cpdmaxtonedur	Sets guard timer used for detecting continues tones. Set between [>= 10ms and <= 86400000ms, or "MPS Default Value" to use default (TMS default)]. Note: This parameter typically does not need to be modified.																																											
c#-# setsvcpam	Value used by CPD to discriminate between a transient and actual tone. Set																																											

command - option	Description
cpdmintonedur	between [$\geq$ 10ms and $\leq$ 86400000ms, or "MPS Default Value" to use default (TMS default)]. Note: This parameter typically does not need to be modified.
c#-# setsvcpam cpdminpsedur	Value used by CPD to discriminate between a transient and actual pause. Set between [$\geq$ 10ms and $\leq$ 86400000ms or "MPS Default Value" to use default (TMS default)]. Note: This parameter typically does not need to be modified.
c#-# setsvcpam cpdwinlen	Adjusts size of sliding window used by CPD to merge similar tone or pause events. Set between [$\geq$ 10ms and $\leq$ 86400000ms, or "MPS Default Value" to use default (TMS default)]. Note: This parameter generally does not need to be modified.
c#-# setsvcpam deflinestate	Sets the default state between calls for CCM and the phone line resource.
c#-# setsvcpam disguard	Sets the maximum time CCM waits for all outstanding responses to be received before it forces the disconnect/reset sequence to complete.
c#-# setsvcpam discstrip	Sets the amount of data to strip from the end of a recording that is terminated by the caller hanging up (disconnect).
c#-# setsvcpam dtmftermtout	Sets the time to wait for a caller to enter an input termination sequence. Set between [100ms - 86400000ms, or 0 to disable]. All values provided are rounded to the nearest 100ms increment. Note: This timer is restarted for each digit of a multi-character termination sequence.
c#-# setsvcpam dtmfguard	Turns touch tone validation in TMS on or off.
c#-# setsvcpam dtmftonedur	Sets the minimum duration a touch-tone must exist for the TMS to consider it valid.
c#-# setsvcpam first	Sets the maximum amount of time allowed for a caller to enter the first touch-tone in an input sequence (first character timeout).
c#-# setsvcpam firstsil	Sets the amount of silence required to abort a record on first silence detection (before voice starts).
c#-# setsvcpam inter	Sets the maximum amount of time allowed for a caller to pause between touch-tones in a multiple tone input sequence.
c#-# setsvcpam intersil	Sets the amount of silence required to automatically abort a recording at the end of voice.
c#-# setsvcpam pickup	Sets the guard timer for answering a call originated by the TMS.
c#-# setsvcpam rsrccallocgrd	Specifies the time that TMS should wait for a resource to become available during a request by CCM to add a resource to its RSet.
c#-# setsvcpam showapplist	Displays information on the list of connections that CCM has to applications that were/are the target of a line handoff operation. This list is used by CCM to optimize the line handoff operation by eliminating the need to re-establish

command - option	Description
	connections to and negotiate version with the target application of a line handoff operation. This performance improvement is realized only when the line handoff operation is repetitive (that is, the target application is always the same).
c#-# setsvcpam silstrip	Sets the minimum amount of silence required before the DSP starts stripping the silence from the recording.
c#-# setsvcpam silthresh	Sets the minimum amount of noise needed to distinguish between silence and non-silence for a recorder.
c#-# setsvcpam totalcall	Sets the total call guard timer.
c#-# setsvcpam ttstrip	Sets the number of milliseconds of data to strip from the end of a recording that is terminated by a touch tone.
c#-# status or ccm status	Displays a general work thread status report or a current process wide status report.
c#-# strminfo	Displays a report on the streams, in TMS, that are available to the line. Streams are used for speech synthesis and recognition.
c#-# ttclear	Clears the touch tone buffer in TMS (only if a DTMF Receiver is part of this line's RSet).

Diagnostic Logging and Tracing (DLT) Commands

DLT is a utility that provides an interactive command line interface with the TCAD and TRIP processes. All DLT commands must be executed from the DLT shell. When the dlt command is invoked, the current shell is changed to the DLT shell. The DLT shell can also be invoked non-interactively.

DLT commands are primarily used for control of spans on the current component and for operation of call simulation scripts. V-shell, Solaris, or Win32 commands are not available from the DLT shell. One exception is the V-shell comp command. DLT interaction with other MPS components is possible by using comp to change the current component. When the current component is changed, DLT disconnects from TCAD and TRIP on the current component and establishes connections with TCAD and TRIP on the new component.

Table 8: DLT Commands

Command	Description
devlist	Displays a list of devices on the current component (TMS).
exit	Exits the DLT shell.
help	Displays command line help for DLT commands.
scriptbind	Binds a script to a line.
scriptcntrl	Controls execution of scripts.
scriptlist	Displays a list of scripts currently loaded.

scriptload	Loads a call simulation script into TMS memory.
scriptunbind	Unbinds a script from a line.
scriptunload	Unloads a call simulation script from TMS memory.
simgetparams	Returns the current values of simulation parameters.
simsetparams	Sets the simulation parameters of the TMS.
spandisable	Disables the specified span(s).
spanenable	Enables the specified span(s).
spanlist	Displays the list of spans.
spanloopbackoff	Disables loopback on odd/even span pairs.
spanloopbackon	Enables loopback on odd/even span pairs.
spanstatus	Displays the status of the specified span(s).
startup	Sends a startup signal to the TMS.

Generic Debug Logging (DLog) Commands

Generic Debug Logging (DLog) is an interface that provides additional command options to several VOS processes. It consists of a library module that is dynamically linked to those VOS processes upon initialization.

Although DLog is not process-specific, a process name must be specified to invoke any of the commands. The processes that are configured to use DLog options include CCM, COMMGR, PMGR, TCAD, TRIP, VAMP, and VMM. Substitute the process name for the standalone <task> string in the options listed below. For example: vmm dlogdbglist.

Table 9: DLOG Commands

command - option	Description
<task> dlogcapclear	Clears the contents of the capture buffer for the specified debug objects.
<task> dlogcapoff	Disables debugging to the capture buffer for the specified debug objects.
<task> dlogcapon	Enables debugging to a capture buffer for the specified debug objects.
<task> dlogcapprint	Displays the contents of the specified capture buffer.
<task> dlogcapsize	Sets the size of newly created capture buffers.
<task> dlogdbginfo	Displays information about specified debug objects.

<task> dlogdbglist	Displays a list of all registered debug objects for a process.
<task> dlogdbgoff	Disables real-time debugging to the destination for the specified debug objects.
<task> dlogdbgon	Enables real-time debugging to the destination for the specified debug objects.
<task> dlogfilename	Specifies name of log file to be used when debugging is enabled to a file.
<task> dlogfilesize	Sets the maximum size a log file is allowed to grow.
<task> dloghelp	Displays help for the specified DLOG option.

Network Controller Daemon (NCD) Commands

The NCD process runs on the tmscomm.N component, therefore the V-shell must run on that component to invoke NCD commands. Use the comp command to change the default component.

Table 10: NCD Process Commands

command - option	Description
ncd breakbridge	Breaks a bridge (by handle) in the specified direction.
ncd bridgegetgroup	Displays information about the specified bridge group.
ncd bridgelist	Displays a list of created bridges.
ncd bridgestatus	Displays all the bridges that are currently in place in the system.
ncd chassisstatus	Displays NIC information.
ncd clientconnlist	Displays list of all clients connected to NCD.
ncd clientdebug	Turns debugging of NCD client commands on or off.
ncd commands	Lists all VSH commands available for NCD process.
ncd connections	Displays list of all clients and servers connected to NCD in tabular format.
ncd connlist	Displays list of all clients connected to NCD.
ncd createbridge	Creates a bridge.
ncd debug	Turns debugging mode for NCD process on or off.
ncd destroybridge	Destroys a bridge.

command - option	Description
ncd displaydilstatus	Displays Data Integrity Link (DIL) status.
ncd eventtrace	Enables event logging from NCD.
ncd help	Displays syntax and usage information for the specified command.
ncd inspectgbh	Displays information on specified global bridge handles.
ncd makebridge	Makes a bridge (by handle) in the specified direction.
ncd nicbpsgetclocksts	Displays clock status of specified NIC.
ncd nicbpsmongetparams	Displays the NIC monitor status for a TMS.
ncd nicbpsreset	Resets the NIC in the specified backplane slot.
ncd nicbridgegetparams	Displays the bridge parameters for the specified NIC.
ncd nicchassisinfo	Displays NIC chassis information.
ncd nicconnlist	Displays list of all NICs connected to the NCD system.
ncd nicdebug	Turns NIC debug commands on or off.
ncd nicdevinfo	Displays NIC device information.
ncd nicdevstatus	Displays NIC device status.
ncd nicgetpwrsupinfo	Displays NIC power supply information.
ncd nicgetsysmode	Displays the system mode in which the specified NIC is currently operating.
ncd nicgetsysstat	Displays NIC system stats.
ncd nicpllgetparams	Displays NIC PLL parameters.
ncd nicpllgetrefsrc	Displays NIC PLL reference source for clocks.
ncd nicpllgetsynclist	Displays NIC PLL sync list.
ncd nicpllsetparams	Sets NIC PLL parameters.
ncd nicpllsetsynclist	Sets NIC PLL sync list.
ncd nicretrievelog	Displays the logged records on the specified NIC.

command - option	Description
ncd nicretrievesysalarm	Retrieves NIC system alarm log.
ncd nicsetproctrace	Turns NCD process tracing on or off.
ncd nicsetpwrsupinfo	Sets NIC power supply information.
ncd nicsysgetparams	Displays the system parameters for the specified NIC.
ncd nicsyssetparams	Sets the system parameters for the specified NIC.
ncd nictermclocks	Terminates clocks on the NIC.
ncd pllgetparams	Displays the current value of PLL parameters.
ncd pllgetrefsrc	Displays the current sources of the reference clocks.
ncd pllgetsynclist	Displays the current sync list for the reference source specified.
ncd pllstatus	Displays all the PLL Groups that are currently configured by the NCD system.
ncd status	Displays NCD status.
ncd systemstatus	Displays system status.
ncd tmsreqbridgeinfo	Displays the number of bridges on a TMS. ncd nicsetpwrsupinfo Sets NIC power supply information.
ncd nicsysgetparams	Displays the system parameters for the specified NIC.
ncd nicsyssetparams	Sets the system parameters for the specified NIC.
ncd nictermclocks	Terminates clocks on the NIC.
ncd pllgetparams	Displays the current value of PLL parameters.
ncd pllgetrefsrc	Displays the current sources of the reference clocks.
ncd pllgetsynclist	Displays the current sync list for the reference source specified.
ncd pllstatus	Displays all the PLL Groups that are currently configured by the NCD system.
ncd status	Displays NCD status.
ncd systemstatus	Displays system status.

command - option	Description
ncd tmsreqbridgeinfo	Displays the number of bridges on a TMS.

Pool Manager (PMGR) Process Commands

The PMGR process runs on the common.N component, therefore the V-shell must run on that component to invoke PMGR commands. Use the comp command to change the default component to the common component prior to invoking PMGR commands.

command - option	Description
pmgr allocretry	Configures the number of allocation retries that should be made if an allocation fails before sending a failure back to the application.
pmgr cfgrsrc	Configures any resource that matches 'rsrcStr' to be added to the pool 'poolname' when it is registered with Pool Manager.
pmgr clearStats	Clears and resets all resource/pool statistics to zero.
pmgr defpool	Defines a new pool.
pmgr help	Displays help for the specified PMGR option.
pmgr mkavail	Makes the resources indicated by 'rsrcStr' available for allocation.
pmgr mkunavail	Makes the resources indicated by 'rsrcStr' unavailable for allocation when the resources become free.
pmgr pings	Enable/disable remote PMGR pingging.
pmgr pingmaxoutstanding	Set the number of pings missed by a remote PMGR before being considered unreachable.
pmgr pingperiod	Set the remote PMGR ping interval.
pmgr poolinfo	Displays information for the specified pool.
pmgr poollist	Displays a list of all configured pools.
pmgr repPoolAllocStats	Displays pool allocation statistics.
pmgr reppoolstats	Displays pool statistics.
pmgr reppoolstatus	Display a list of all local and remotely registered/available resources.
pmgr repPoolSwitchStats	Displays pool resource switch statistics.

command - option	Description
pmgr reprsrcstats	Displays resource statistics.
pmgr reqlist	Lists all requests that are currently pending.
pmgr rmtpmgrlist	Displays list of remote Pool Managers in contact with the current node
pmgr rmtpoolinfo	Displays list of remote pools for a specified node
pmgr rpinfo	Displays information for the specified resource provider.
pmgr rplist	Displays a list of all resource providers.
pmgr rsrcInfo	Displays a report on the specified resource.
pmgr rsrclist	Displays a list of all resources.
pmgr rsrcsortorder	Sets the sort order for displaying resource reports.
pmgr setdisphashstats	Enable/disable display of hash statistics information in other PMGR status command output
pmgr showconf	Shows the current runtime configuration for pool manager.
pmgr uncfgrsrc	Unconfigures any resource that matches 'rsrcStr' so that is NOT added to the pool 'poolname' when it is registered with Pool Manager.
pmgr undefPool	Undefines the pool 'poolname'. This will still be a valid pool if it is dynamically configured or supported by a remote PMGR.

TMS Configuration and Alarm Daemon (TCAD) Commands

Table 11: TCAD Process Commands

command - option	Description
tcad fftmode	Set FFT mode to ON or OFF.
tcad help	Display help for command.
tcad licenseinfo	Display TMS resource licensing information.
tcad showconf	Display TCAD Information.
tcad spanlicinfo	Display span resource licensing information.
tcad status	Display TCAD general status.

TMS Routing Interface Process (TRIP) Commands

Table 12: TRIP Process Commands

command - option	Description
trip clrstatus	Clear the TRIP network throughput statistics.
trip hc-interval	Set the health check interval timer.
trip hc-miss-cnt-max	Set the maximum allowed number of missed check messages.
trip hc-tolerance	Set time interval between TMS health checks.
trip pack	Set/display message packing for all TMS ports.
trip pack-lrm	Set/display message packing for TMS LRM ports.
trip pack-adsm	Set/display message packing for TMS ADSM ports.
trip pack-sim	Set/display message packing for TMS SIM ports.
trip status	Displays TRIP status.

Vengine Application Management Process (VAMP) Commands

The VAMP process runs on the mps component; therefore the V-shell must run on that component to invoke VAMP commands.

Table 13: VAMP Commands

commands	Description
vamp catch-condition	Enable catching specified condition to an application
vamp catch-field	Enable catching specified field/value pair sent to an application
vamp catch-field partial	Enable catching specified field/partial value pair sent to an application
vamp catch-off	Display the active catch commands
vamp catch-report	Display list of all active catch commands
vamp catch-status	Enable catching specified response status to an application
vamp hclear	Clear history buffer for specified applications
vamp hdump	Display an application's command history buffer

vamp hdump-file	Save an application's command history buffer to a file
vamp history	Enable/disable application command history buffering
vamp hsize	Sets the size of application history buffers to specific size
vamp logon	Enable real-time VAMP message logging
vamp logoff	Disable real-time VAMP message logging
vamp status	Display application status information

Voice Memory Manager (VMM) Process Commands

Table 14: VMM Process Commands

command option	Description
vmm apphtsize	Configures the size of the application hash table.
vmm appinit	Creates an entry for an application in the application hash table.
vmm appremove	Removes entry from the application hash table for an application.
vmm appstatus	Displays an Application Status Report.
vmm cachestatus	Displays a Cache Status Report.
vmm clrcachestat	Clears cache related statistics for the Cache Status Report and the Cache Channel Queue Status Report.
vmm clrcachestat	Clears cache related statistics for vmm clrrfstat Clears reference statistics associated with the specified MMF.
vmm controller	Selects the SCSI controller from which VMM should allow MMFs to be activated.
vmm delete	Deletes specified elements from the specified MMF.
vmm dumpcache	Displays the current contents of cache memory (mapping of disk block to memory address).
vmm hashfirst	Sets the hashing order for the specified application.
vmm hashreport	Displays a hash report for either an application specific (local) or the system (global) hash table.
vmm help	Displays syntax and usage information for the specified command.

command option	Description
vmm loadall	Indicates if VMM should attempt to lock elements into cache memory when activating an MMF.
vmm loadqrep	Displays a Cache Channel Queue Status Report.
vmm lochtsize	Configures the size of application specific (local) hash tables.
vmm mmfdefault	Sets the default MMF for the specified application or for the system (global) hash table.
vmm mmfhtsize	Configures the size of the MMF hash table.
vmm mmfload	Activates the MMF for the specified application or globally (in the system hash table).
vmm mmfrecord	Activates the MMF for the specified application or globally for recording.
vmm mmfstatus	Displays an MMF Status Report.
vmm mmfunload	Deactivates the MMF (or all MMFs) for the specified application or globally (in the system hash table).
vmm mmfupdate	Imports all elements (replacing existing elements with the same name) from the VGEN incremental file into the specified MMF.
vmm nload	Sets the number of characters used when hashing element name.
vmm numcachethd	Sets the number of cache channel management threads.
vmm pagesize	Sets cache pagesize.
vmm preload	Indicates the number of seconds of audio that should be locked in cache memory for each element when activating an MMF.
vmm refstatus	Displays an Element Reference Report for the specified MMF.
vmm repconfig	Displays a Configuration Report.
vmm sethwm	Sets the high water mark for the specified MMF.
vmm setlwm	Sets the low water mark for the specified MMF.
vmm status	Displays a VMM Status Report.

command option	Description
vmm syshtsize	Configures the size of the system hash table.
vmm tonetable	Sets the MMF to use for the tone (digit) table.
vmm vdmloadmode	Sets the mode for loading pages into cache memory.
vmm vdmmaxlock	Sets the maximum amount of cache memory that can be used to lock pages.

Chapter 2. Upgrade from MPS 2.1 to MPS 3.5

Before You Begin

Getting Started

Before proceeding with the installation of hardware and software to upgrade from MPS 2.1 to MPS 3.5, read the following sections to understand:

- Important considerations before upgrading,
- Check for compatible hardware,
- Upgrade tasks and approximate times to complete the tasks, and
- Required tools and kits needed to perform the upgrade.

Important Considerations before Upgrading

The following questions are meant to help determine the most reasonable upgrade path for a given site based on the amount of time a system can remain out of service.

1. Will I have enough time to perform all the upgrades?

Calculate the approximate total time needed for the site upgrade by adding up the times using the table in the section, [Upgrade Tasks](#).

2. Do I need to perform all the upgrade procedures at once?

No. It is possible to upgrade the TMS, DCC, NICs, and Ethernet switches without upgrading the MPS APs and Speech Servers.

3. Can I upgrade MPS APs without upgrading the Speech Servers?

No. All the APs and Speech Servers within or associated with an MPS system must be upgraded together.

4. What Speech Servers are supported for the upgrade to MPS 3.5?

The following table indicates MPS 2.1 upgrade paths and supported speech engines for MPS 3.5.

Speech Engine	MPS 2.1 Win 2000	MPS 3.5 Win 2003	Recommended MPS 3.5 Upgrade Paths	Comments
OSR 1.x	Y	N	OSR 3.0-Win 2003	Recompile grammar (no compatibility guarantee).
OSR 2.0	Y	N	OSR 3.0-Win 2003	Grammar recompile required.
OSR 3.0	Y	Y	None	
Speechify 2.1	Y	N	RealSpeak 4.5-Win 2003	Dictionary conversion required.

Speech Engine	MPS 2.1 Win 2000	MPS 3.5 Win 2003	Recommended MPS 3.5 Upgrade Paths	Comments
Speechify 3.0	Y	N	RealSpeak 4.5-Win 2003	Dictionary conversion required.
RealSpeak 3.5	Y	N	RealSpeak 4.5-Win 2003	Dictionary conversion required.
RealSpeak 4.0	N	Y	None	
Nuance 8.0	Y	N	Nuance 8.5-Win 2003	Grammar supported, recompile recommended.
Nuance 8.5	Y	Y	None	
Vocalizer 3.0	Y	N	RealSpeak 4.5-Win 2003	Dictionary conversion required.
Verifier 3.0	Y	N	Verifier 4.1-Win 2003	Please refer to Verifier 4.1 documentation.
Verifier 3.5	Y	Y	None	
IAS 1.1	Y	Y	None	
Fonix 5.2	Y	N	RealSpeak 4.5-Win 2003	Full conversion required.
SpeechPearl 8.1	Y	N	OSR 3.0-Win 2003	Full conversion required.

5. Is support given on any Win 2000 based speech engines on MPS 3.5?

No. Differences exist in base libraries between MPS 2.1 and MPS 3.5 that makes compatibility between MPS 3.5 and MPS 2.1 Win 2000 based speech engines impossible to maintain going forward.

Site Specific Questions

1. Are there any customer application files that need to be moved from the existing hard disk to the upgraded hard disk, who is responsible to move them, and how?
2. Are there any additional software packages that need to be moved or reloaded onto the upgraded hard disk (for example: ODBC, compilers, etc.)?
3. Is there any customer level testing of the upgraded system that is required prior to putting the system back into service?

Check for Compatible Hardware

Before proceeding with any upgrade procedure, ensure that the existing MPS hardware is capable of being upgraded by performing the following hardware check.

Hardware Check

The following script collects hostid, network interface information, and TMS revision levels from the MPS hardware. This information indicates whether the TMS is capable of being upgraded or if replacement hardware is required.

Locate the test script in either of the following locations.

1. Within MPS 2.1 Patchbundle 10 (mps2.1.0.121).

On the Avaya ESPL site (<http://support.avaya.com/espl>) under the Multimedia PEP Tools category.

Click on “Click Here” next to MultiMedia Applications Patch Search.

- a. Perform a Product search for MPS.
- b. For Solaris, click on the PEP ID, mps2.1solupgradeTOmps3.5.
For Windows, click on the PEP ID, mps2.1winupgradeTOmps3.5.
- c. Click on avaya_ivr_sysinfo.pl to download the script.

Caution: Verify the following before executing the avaya_ivr_sysinfo.pl script.

- Startup and Recovery Process (SRP) is in the running state.
- Script is executed locally as user root (Solaris) or administrator (Windows).
- Script is run on MPS Application Processors only.

On each MPS Application Processor, from the command line, execute the avaya_ivr_sysinfo.pl script.

The output from the script is placed into a text file located in \$MPSHOME/avaya_ivr_sysinfo-<nodename>.txt. The following is a partial sample output of the .txt file.

```
=====
                        AVAYA IVR SYSTEM HARDWARE INFORMATION
=====
hostname : swscn11
hostid : 80daba05
date : 5/3/2006 9:56:48
=====
...
=====
Following is TMS information for MPS 70
=====
Status: 0
Chasis Number: 11
Slot Number: 2
Number of Devices: 6
Slot Number: 0
Card Number: 0
Card Type: 12
```

Serial Number: 10135
Manufacture Date: 04/03/2002
Card Revision: 503648401F_
Revision Date: 04/03/2002
Number of Devs: 11
Package Time Segs: 0.

To interpret the TMS information in the output file, see [Hardware Upgrade Prerequisites](#).

Submit the avaya_ivr_sysinfo-<nodename>.txt file to a Certified AvayaAccount Manager so they can determine if existing MPS hardware components can be upgraded or need to be replaced.

Upgrade Tasks

The following table lists all the tasks and the approximate times to complete the tasks in upgrading an MPS 2.1 to MPS 3.5. Print out the following table and use it as a checklist while performing the tasks. Place a checkmark in the table next to each successfully completed task.

Caution: Perform the applicable tasks for your site in the order listed in the table below.

Tasks Task	Location	Time to Complete
Business Policy Switch 2000 and BayStack 470 Upgrade	Business Policy Switch 2000 and BayStack 470 Upgrade	8 hours
Download BPS images to /tftpboot on MPS AP		
Upgrade software on both switches		
Power shutdown both units		
Add cascade module to both units with cabling and restart		
Perform cascade verification and stack IP insertion		
Perform spanning tree setup		
Perform multi-link setup if uplink present		
Passport 8000 Series Switch Upgrade	Passport 8000 Series Switch Upgrade	8 hours
Download firmware images to /tftpboot on MPS AP		

Tasks Task	Location	Time to Complete
Follow upgrade procedures in Passport documentation		
PeriView 2.1 to MPS Manager 3.5 Solaris Software Upgrade (if applicable)	PeriView 2.1 to MPS Manager 3.5 Solaris Software Upgrade (if applicable)	
PeriView 2.1 to MPS Manager 3.5 Windows Software Upgrade (if applicable)	PeriView 2.1 to MPS Manager 3.5 Windows Software Upgrade (if applicable)	
MPS 2.1 to 3.5 Solaris Application Processor Software Upgrade (Note: If also upgrading SIP, perform SIP upgrade before MPS AP upgrade)	MPS 2.1 to 3.5 Solaris Application Processor Software Upgrade	2 hours/AP
Unmirror/Mirror existing MPS 2.1 disks		
Install MPS 3.5 hard disk		
Copy root (/) slice data from MPS 2.1 disk to MPS 3.5 disk		
Perform system and network configuration		
Configure /opt slice and copy data from MPS 2.1 disk to MPS 3.5 disk		
Setup CCTIVR/CCSS co-res if applicable		
Verify AP upgrade with MPS hardware using FFT (Note: Also perform TPM FFT if SIP was upgraded)		
MPS 2.1 to 3.5 N+1 Standby Solaris Server Upgrade	MPS 2.1 to 3.5 N+1 Standby Solaris Server Upgrade	2 hours/AP
Unmirror/Mirror existing MPS 2.1 disk		
Install MPS 3.5 hard disk		
Configure base requirements for standby server		

Tasks Task	Location	Time to Complete
Setup redundancy using MPS Manager or scripts		
Setup CCTIVR/CCSS co-res if applicable		
Verify AP upgrade with MPS hardware using FFT (Note: Also perform TPM FFT if SIP was upgraded)		
Validate Call Protect/N+1 Redundancy Failover/Failback		
MPS 2.1 to 3.5 Windows Application Processor Software Upgrade (Note: If also upgrading SIP, perform SIP upgrade before MPS AP upgrade)	MPS 2.1 to 3.5 Windows Application Processor Software Upgrade	2 hours/AP
Backup files		
Install MPS 3.5 hard disk		
Perform system and network configuration		
Copy configuration data from MPS 2.1 disk to MPS 3.5 disk		
Setup CCTIVR/CCSS co-res if applicable		
Verify AP upgrade with MPS hardware using FFT (Note: Also perform TPM FFT if SIP was upgraded)		
MPS 2.1 to 3.5 N+1 Standby Windows Server Upgrade	MPS 2.1 to 3.5 N+1 Standby Windows Server Upgrade	2 hours/AP
Backup files		
Install MPS 3.5 hard disk		
Configure base requirements for standby server		
Setup redundancy using MPS Manager or scripts		

Tasks Task	Location	Time to Complete
Copy configuration data from MPS 2.1 disk to MPS 3.5 disk		
Setup CCTIVR/CCSS co-res if applicable		
Verify AP upgrade with MPS hardware using FFT (Note: Also perform TPM FFT if SIP was upgraded)		
Validate Call Protect/N+1 Redundancy Failover/Failback		
MPS 2.1 to 3.5 Speech Server Software Upgrade	MPS 2.1 to 3.5 Speech Server Software Upgrade	1 hour/Speech Server
Install MPS 3.5 hard disk		
Copy MPS/System/Network configuration files from MPS 2.1 disk to MPS 3.5 disk		

Verify Upgrade Kits

The table in Appendix A, [MPS 3.5 Upgrade Kits](#), describes the various MPS 2.1 to MPS 3.5 upgrade kits. The table lists all the hardware platforms supported. Check the table against the items shipped, to ensure the kits are correct and complete.

Kits delivered to a particular site only contain those items relevant to the sites hardware.

Required Tools and Equipment

The following is a list of basic tools and equipment needed to perform the upgrade procedures contained in this manual.

Tools and Equipment
Various size slotted and cross-tip screwdrivers
T-10 Torx Drive
Various size hex sockets
Various size Allen wrenches
Assorted Ethernet cables of various lengths
Laptop containing HyperTerminal and WinZip software
DB9-DB9 cable (PC to Ethernet Switch)

TMS Flash ROM Programming Tool (NTV16367)
3.5" Floppy Disk for x335 BIOS upgrade

Backing Up Applications and Files

Before proceeding with any of the upgrade procedures contained in this document, be sure to backup to a separate storage device any customized MPS Developer applications, MMFs (vocabularies) residing on secondary MPS 2.1 disk, application configuration files, database files and any other important files that need to migrate to the upgraded hard disk.

If you are not sure what application files need to be backed up, contact your Avaya Professional Services Organization (APS) representative. For the default location of APS files and directories, see [Backup APS Application Files](#).

Upgrade Tasks

Business Policy Switch 2000 and BayStack 470 Upgrade Procedure

While upgrading the Ethernet switches, keep the following rules in mind.

- There can be only one Ethernet switch in a cascade scheme configured as the "Base".
- When "Cascading" dissimilar Ethernet switches (i.e. BPS 2000 and BayStack 470), all Ethernet switches must be brought to their latest firmware revision.
- The Primary (or Base) Ethernet switch must be connected to a different Power Distribution Unit (PDU) (and Mains power source) than the Secondary (non-Base) switch.

Download Ethernet Switch Firmware

Perform the following procedure to download the latest firmware for the Ethernet switches to the MPS Application Processor.

1. Download the firmware (BayStack operating system Switching Software (BoSS)) from one of the following locations.

For the BPS 2000:

- a. Go to <http://www.avaya.com>.
- b. Under SUPPORT select DOWNLOADS.
- c. Enter Business Policy Switch under product name.
- d. Select Business Policy Switch Downloads.

For the BayStack 470:

- a. Go to <http://www.avaya.com>.
 - b. Under SUPPORT select DOWNLOADS.
 - c. Enter Ethernet switch 470 series under product name.
 - d. Select Ethernet Switch 470 Series Downloads.
2. Select the latest version of the BoSS available (as of this writing the latest version is BayStack operating system Switching Software (BoSS) v3.1.6).
 3. Download both the Agent Image and the Diagnostic Image to a PC.

4. On a Windows AP:
 - a. Create a directory named, tftpboot, in the root directory of the Cdrive (C:\).
 - b. Using the Task Manager, make sure the processes ptftpd.exe and pbootpd.exe are running. If not, start SRP by executing srp -start in a Command Prompt.
5. Transfer (for example, FTP) the image files from the PC to the tftpboot directory on the MPS AP (Solaris - /tftpboot, Windows - C:\tftpboot), which is accessible to the switches.

Upgrade Firmware on Ethernet Switches

1. Connect a DB9-DB9 cable between the PC and the Console Port on the Switch.
2. Recycle power on the Switch and at the Avaya logo hit CTRL-Y to view the Main Menu.

```

BayStack 470 - 24T Main Menu

IP Configuration/Setup...
SNMP Configuration...
System Characteristics...
Switch Configuration...
Console/Comm Port Configuration...
Display Hardware Units...
Spanning Tree Configuration...
TELNET/SNMP/Web Access Configuration...
Software Download...
Configuration File...
Display System Log...
Reset...
Reset to Default Settings...
Command Line Interface...
Logout...
  
```

3. Select Software Download... .
4. Download and install the Agent Image firmware (see figure below).
 - a. Enter the filename of the agent image into the Software Image Filename field.
 - b. Enter the filename of the diagnostic image into the Diagnostic Image Filename field.
 - c. Enter the IP address of the MPS AP into the TFTP Server IP Address field. This is the AP where the image files were transferred in the previous procedure.
 - d. Choose Software Image from the selections in the Start TFTP Load of New Image field.

```

Software Download

Software Image Filename:      [ boss3162.img ]
Diagnostic Image Filename:    [ boss3601_diag.bin ]

TFTP Server IP Address:      [ 10.7.1.101 ]

Start TFTP Load of New Image: [ Software Image ]
  
```

5. After restart, the Switch banner screen indicates the updated version of the agent image firmware (SW:v3.1.6.52) as shown below.

```
*****
*** BayStack 470 - 24T ***
*** Avaya Networks ***
*** Copyright (c) 1996-2005, All Rights Reserved ***
*** BOSS 3.1 ***
*** HW:06 FW:3.0.0.5 SW:v3.1.6.52 ISVN:2 ***
*****
```

6. Return back to the Software Download... screen and download and install the Diagnostic Image firmware (see figure below).
 - a. Enter the filename of the agent image into the Software Image Filename field.
 - b. Enter the filename of the diagnostic image into the Diagnostic Image Filename field.
 - c. Enter the IP address of the MPS AP into the TFTP Server IP Address field. This is the AP where the image files were transferred in the previous procedure.
 - d. Choose Diagnostics from the selections in the Start TFTP Load of New Image field.

Software Download	
Software Image Filename:	[boss3162.img]
Diagnostic Image Filename:	[boss3601_diag.bin]
TFTP Server IP Address:	[10.7.1.101]
Start TFTP Load of New Image:	[Diagnostics]

7. After restart the Switch banner screen indicates the updated version of the diagnostic image firmware (FW:3.6.5.1) as shown below.

```
*****
*** BayStack 470 - 24T ***
*** Avaya Networks ***
*** Copyright (c) 1996-2005, All Rights Reserved ***
*** BOSS 3.1 ***
*** HW:06 FW:3.6.5.1 SW:v3.1.6.52 ISVN:2 ***
*****
```

8. Repeat the upgrade firmware procedure on the other switch.

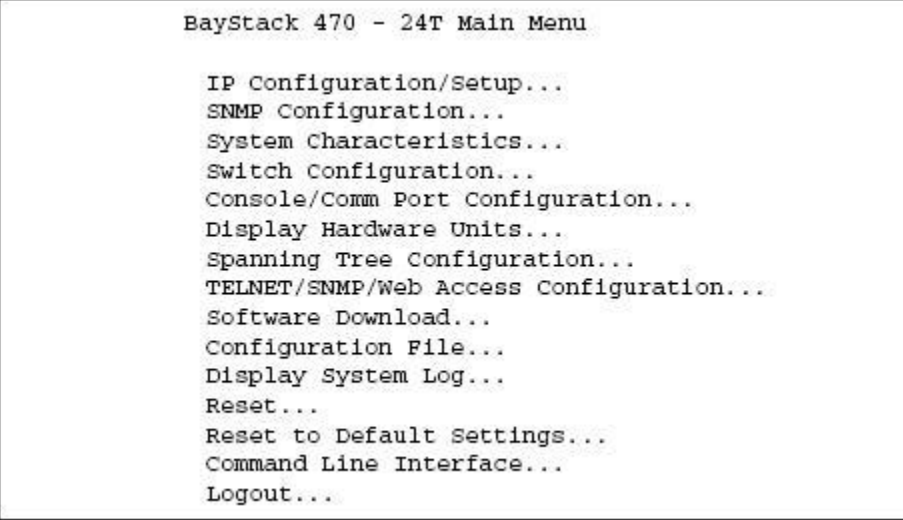
Install Cascade Module in Business Policy Switches

1. Power off the Ethernet switches.
2. Install Business Policy Switch (BPS) Cascade module(s) (BayStack 400 ST-1) in all Business Policy Switch(es). The installation and configuration instructions (Installing the BayStack 400-ST1 Cascade Module) are included in the BPS Cascade module kit, however, they can also be found in the following location:

- a. Go to <http://www.avaya.com>.
 - b. Under SUPPORT & TRAINING select TECHNICAL DOCUMENTATION.
 - c. Under Find Products select Families.
 - d. Select Baystack.
 - e. Under BayStack Business Policy Switch select Documentation.
 - f. To the right of Installing the BayStack 400-ST1 Cascade Module select pdf.
3. On the Business Policy Switch designated as the Primary (or Base) set the Unit Select switch to the "On" (Up) position. Set all Unit Select switches on the remaining Business Policy Switches to the "Off" (Down) position.
4. In order to better differentiate cable connections, all devices being sourced from the designated Primary (or Base) unit have "Gray" colored cables attached to the ENET A (or lowest numbered Ethernet Server port). All devices with a Secondary connection from the "non-Base" unit have a "Black" colored cable attached to ENET B (or the next highest numbered Ethernet Server port).

Verify Cascading of Switches and Set Stack IP Address

1. Recycle power on the Switch and at the Avaya logo hit CTRL-Y to view the Main Menu.



```
BayStack 470 - 24T Main Menu

IP Configuration/Setup...
SNMP Configuration...
System Characteristics...
Switch Configuration...
Console/Comm Port Configuration...
Display Hardware Units...
Spanning Tree Configuration...
TELNET/SNMP/Web Access Configuration...
Software Download...
Configuration File...
Display System Log...
Reset...
Reset to Default Settings...
Command Line Interface...
Logout...
```

2. Select IP Configuration/Setup...

If Unit: [1] appears on the screen (see illustration below), then the switches are configured correctly.

If the unit number is not displayed on the screen, recheck the cascade module installation procedures before proceeding.

IP Configuration/Setup			
Unit: [1]			
BootP Request Mode: [BootP Disabled]			
	Configurable	In Use	Last BootP
In-Band Stack IP Address:	[10.7.1.107]	10.7.1.107	0.0.0.0
In-Band Switch IP Address:	[10.7.1.108]	0.0.0.0	0.0.0.0
In-Band Subnet Mask:	[255.255.0.0]	255.255.0.0	0.0.0.0
Default Gateway:	[10.7.0.0]	10.7.0.0	0.0.0.0
IP Address to Ping:	[10.7.1.101]		
Start Ping:	[No]		

- As an additional check for successful cascade module installation and firmware upgrade; from the Main Menu, select Display Hardware Units... and make sure both switches are listed.

Hardware Unit Information						
Unit#	Switch Model	MDA Model	GBIC Port	GBIC Port	Cascade SW Version	Module
1	BayStack 470-24T		(25) None	(26) None	400-ST1 v3.1.6.02	
2	BayStack 470-24T		(25) None	(26) None	400-ST1 v3.1.6.02	

- In the In-Band Stack IP Address: field, enter the IP address of the stack.
Both switches are now seen as one through the use of the Stack IP address.

IP Configuration/Setup			
Unit: [1]			
BootP Request Mode: [BootP Disabled]			
	Configurable	In Use	Last BootP
In-Band Stack IP Address:	[10.7.1.107]	10.7.1.107	0.0.0.0
In-Band Switch IP Address:	[10.7.1.108]	0.0.0.0	0.0.0.0
In-Band Subnet Mask:	[255.255.0.0]	255.255.0.0	0.0.0.0
Default Gateway:	[10.7.0.0]	10.7.0.0	0.0.0.0
IP Address to Ping:	[10.7.1.101]		
Start Ping:	[No]		

Spanning Tree Configuration

- Connect a DB9-DB9 cable between a PC or console and the Console Port on the Switch.
- Recycle power on the switch and at the Avaya logo hit CTRL-Y to view the Main Menu.

BayStack 470 - 24T Main Menu

```
IP Configuration/Setup...
SNMP Configuration...
System Characteristics...
Switch Configuration...
Console/Comm Port Configuration...
Display Hardware Units...
Spanning Tree Configuration...
TELNET/SNMP/Web Access Configuration...
Software Download...
Configuration File...
Display System Log...
Reset...
Reset to Default Settings...
Command Line Interface...
Logout...
```

3. Select Spanning Tree Configuration... .

```
Spanning Tree Group Configuration...
Spanning Tree Port Configuration...
Display Spanning Tree Switch Settings...
Display Spanning Tree VLAN Membership...
Return to Main Menu
```

4. Select Spanning Tree Port Configuration... .

Spanning Tree Port Configuration

Port	STP Group: [1]		Unit:	[1]	State
	Trunk	Participation	Priority	Path Cost	
15		[Fast Learning]	128	10	Forwarding
16		[Fast Learning]	128	10	Forwarding
17		[Fast Learning]	128	10	Forwarding
18		[Fast Learning]	128	10	Forwarding
19		[Fast Learning]	128	10	Forwarding
20		[Fast Learning]	128	10	Forwarding
21		[Fast Learning]	128	10	Forwarding
22		[Fast Learning]	128	10	Forwarding
23		[Fast Learning]	128	10	Forwarding
24		[Fast Learning]	128	10	Forwarding
Switch		[Fast Learning]			
Stack		[Fast Learning]			

5. Scroll to the end of the port listing by hitting CTRL-N. Set the following selections to Fast Learning.

Switch [Fast Learning]

Stack [Fast Learning]

For more information on the Spanning Tree Port Protocol, refer to chapters 6 through 9 in the document Configuring VLANs, Spanning Tree, and MultiLink Trunking. The document can be found at the following location:

1. Go to <http://www.avaya.com>.
2. Under SUPPORT select DOCUMENTATION.

3. Select Installation, Migrations, Upgrades & Configurations.
4. Select Ethernet Switch 470 Series.
5. Select Nortel Ethernet Switch 460/470 Configuration – VLANs, Spanning Tree, and MultiLink Trunking.

MultiLink Trunk Configuration

Caution: Perform the following procedure only if there is an uplink to a Passport or customer switch.

1. Recycle power on the Switch and at the Avaya logo hit CTRL-Y to view the Main Menu.

```
BayStack 470 - 24T Main Menu

IP Configuration/Setup...
SNMP Configuration...
System Characteristics...
Switch Configuration...
Console/Comm Port Configuration...
Display Hardware Units...
Spanning Tree Configuration...
TELNET/SNMP/Web Access Configuration...
Software Download...
Configuration File...
Display System Log...
Reset...
Reset to Default Settings...
Command Line Interface...
Logout...
```

2. Select Switch Configuration... .

```
MultiLink Trunk Configuration...
MultiLink Trunk Utilization...
Return to Switch Configuration Menu
```

3. Select MultiLink Trunk Configuration... .
4. Based on the type of switches, set the values for Trunk Members (Unit/Port) on Trunk 1. In the following example Unit 1 is the Business Policy Switch with 24 ports and Unit 2 is the BayStack 470 with 26 ports.
5. Change Trunk Status for Trunk 1 to Enabled.

Trunk	Trunk Members (Unit/Port)	STP Learning	Trunk Mode	Trunk Status
1	[2/ 26][1/ 24][/] [/]	[Normal]	Basic	[Enabled]
2	[/][/][/][/]	[Normal]	Basic	[Disabled]
3	[/][/][/][/]	[Normal]	Basic	[Disabled]
4	[/][/][/][/]	[Normal]	Basic	[Disabled]
5	[/][/][/][/]	[Normal]	Basic	[Disabled]
6	[/][/][/][/]	[Normal]	Basic	[Disabled]

Trunk	Trunk Name
1	[Trunk #1]
2	[Trunk #2]
3	[Trunk #3]
4	[Trunk #4]
5	[Trunk #5]
6	[Trunk #6]

For more information on MultiLink Trunking refer to chapters 10 through 13 in the document Configuring VLANs, Spanning Tree, and MultiLink Trunking. The document can be found at the following location:

1. Go to <http://www.avaya.com>.
2. Under SUPPORT select DOCUMENTATION.
3. Select Installation, Migrations, Upgrades & Configurations.
4. Select Ethernet Switch 470 Series.
5. Select Nortel Ethernet Switch 460/470 Configuration – VLANs, Spanning Tree, and MultiLink Trunking.

Passport 8000 Series Switch Upgrade Procedure

To ensure compatibility with the MPS 3.5, upgrade the Passport 8000 Series switch firmware to the latest version. The following sections describe where to get the latest firmware and how to perform the upgrade.

Download Passport Switch Firmware

Perform the following procedure to download the latest firmware for the Passport switch to the MPS Application Processor.

1. Download the firmware image files from the following location.

For switches with 3.x licenses:

- a. Go to <http://www.avaya.com>.
- b. Under SUPPORT select DOWNLOADS.
- c. Enter Ethernet Routing switch 8800/8600 under product name.
- d. Select the latest version of the 3.x firmware (as of this writing the latest version is Ethernet Routing Switch 8600 v3.7.11.0).

For switches with 4.x licenses:

- a. Go to <http://www.avaya.com>.
- b. Under SUPPORT select DOWNLOADS.
- c. Enter Ethernet Routing Switch 8800/8600 under product name.

- d. Under Ethernet Routing Switch 8800/8600 select 4.x from the pulldown menu.
 - e. Select the latest version of the 4.x firmware (as of this writing the latest version is Ethernet Routing Switch 8600 sw v4.0.5).
2. Download the following image files to a PC.
 - Ethernet Routing Switch 8000 Series Boot Monitor
 - Ethernet Routing Switch 8000 Series Runtime Image
 - Ethernet Routing Switch 8600 ATM Ethernet Code
 - Ethernet Routing Switch 8600 POS Ethernet Code
 3. On a Windows AP:
 - a. Create a directory named, tftpboot, in the root directory of the C drive (C:\).
 - b. Using the Task Manager, make sure the processes ptftpd.exe and pbootpd.exe are running. If not, start SRP by executing srp -start in a Command Prompt.
 4. Transfer (for example, FTP) the image files from the PC to the tftpboot directory on the MPS AP (Solaris - /tftpboot, Windows - C:\tftpboot), which is accessible to the switches.

Upgrade Firmware on Passport Switches

Located in the same directory as the firmware image files previously downloaded is a Readme document (Ethernet Routing Switch 8800/8600 Software Release 3.x Readme or Ethernet Routing Switch 8800/8600 Software Release 4.x Readme). This document contains important information on the latest software release.

Detailed instructions on how to perform the upgrade are located in Passport upgrade documentation (version 3.x or 4.x).

1. For switches with 3.x licenses, download the upgrade document from the following location.
 - a. Go to <http://www.avaya.com>.
 - b. Under SUPPORT select DOWNLOADS.
 - c. Enter Ethernet Routing Switch 8800/8600 under product name.
 - d. Under 8600 Ethernet Routing Switch 8800/8600 select Documentation.
 - e. Select the latest version of the 3.x upgrade documentation (as of this writing the latest version is Upgrading to the Passport 8000 Series Switch Software Release 3.7.6).
2. For switches with 4.x licenses, download the upgrade document from the following location:
 - a. Go to <http://www.avaya.com>.
 - b. Under SUPPORT select DOWNLOADS.
 - c. Enter Ethernet Routing Switch 8800/8600 under product name.
 - d. Under Ethernet Routing Switch 8800/8600 select 4.x from the pulldown menu.
 - e. Select the latest version of the 4.x upgrade documentation (as of this writing the latest version is Upgrading to the 8000 Series Switch Software Release 4.0).

Follow the appropriate procedures in the upgrade documentation for the particular type of Passport switch configuration (for example, upgrading a non-redundant 8600, upgrading a redundant 8600 in high availability mode, upgrading a redundant 8600 in non-high availability mode).

PeriView 2.1 to MPS Manager 3.5 Software Upgrade

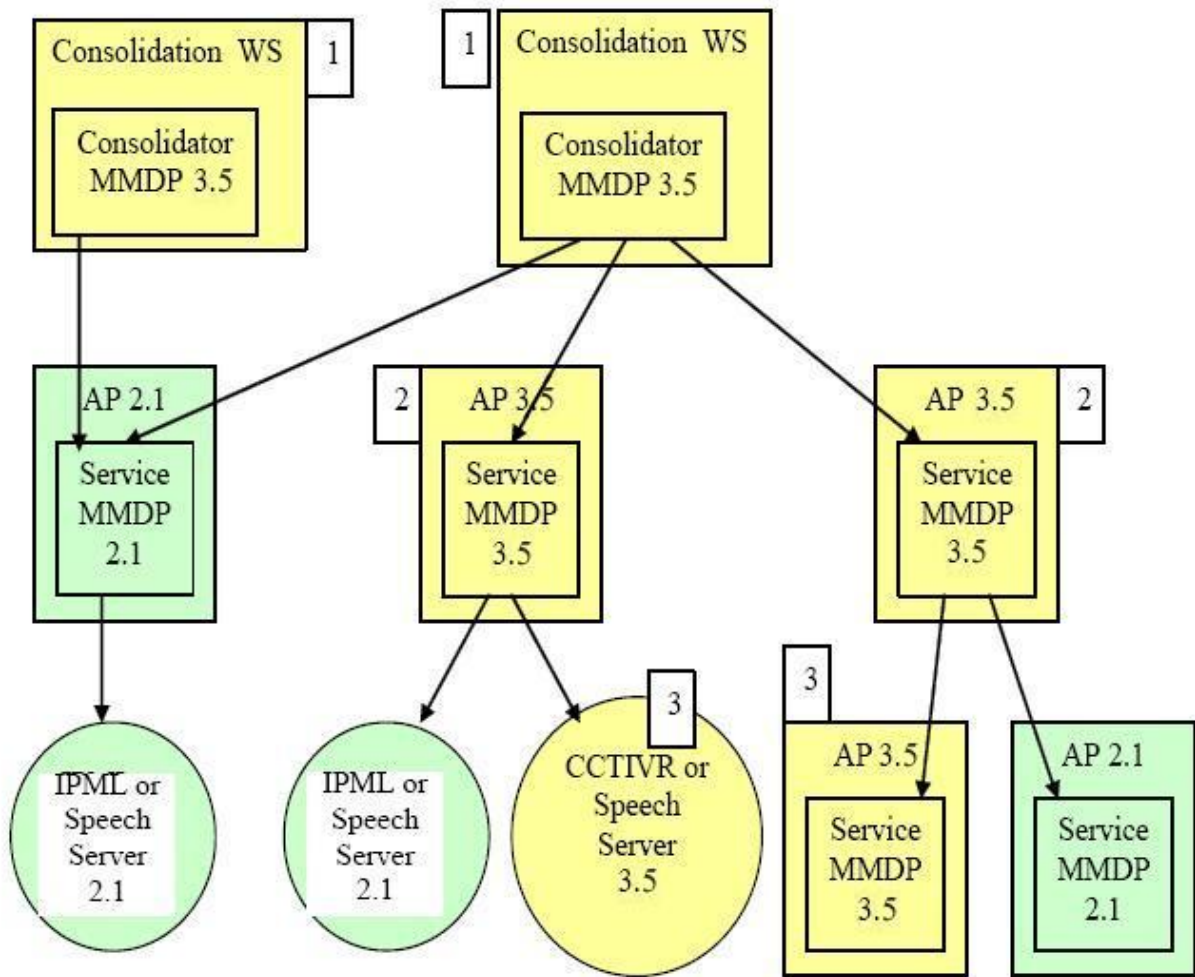
The following sections describe how to upgrade a PeriView 2.1 workstation to MPS Manager 3.5.

MPS Manager/MMDP Upgrade Paths

The order of upgrading to MPS Manager 3.5 is important, and varies according to the MMDP Network configuration. There are five rules governing MPS Manager and MPS Manager Data Provider upgrade paths to release 3.0:

1. All consolidation MMDPs must be upgraded first.
2. In general, the MMDP which monitors the 3.5 components should be at release 3.5 (in most cases the MMDP which monitors the components is local to the components, and so by default it is also at release 3.5). There are exceptions, however, in the cases of PSCAR and IPML Servers which may be pre-release 3.5 and not upgraded to 3.5, where it is acceptable that the MMDP that monitors the Speech Server or IPML server be release 3.5.
3. If any of the service MMDPs in the MMDP network are to be upgraded to 3.5, so must any other service MMDPs stacked on top, and so must any consolidator which directly or indirectly communicates with that service MMDP. Restated, any MMDP on a 3.5 AP must be upgraded to 3.5, as well as the consolidator MMDP, and any service MMDP along the route from the service MMDP to the consolidator MMDP. Note that this configuration is extremely rare.
4. The release level of MPS Manager must match the release level of the consolidator MPS Manager Data Provider that it connects to. It follows from this that if any AP is at 3.5, requiring the consolidator to be at 3.5 then the consolidating PeriView must be upgraded to MPS Manager.
5. When any AP configured within a cluster or redundancy group is to be upgraded, all APs within that cluster must be upgraded at the same time. Single node upgrade in a multi-node cluster is not supported.

The diagram below illustrates required upgrades to a MMDP network when a monitored AP, Speech Server, or CCTIVR/IPML Server is upgraded to release 3.0 (order of upgrade is indicated):



PeriView 2.1 to MPS Manager 3.5 Solaris Upgrade Procedure

Perform the following steps in the order listed to upgrade an individual PeriView 2.1 Workstation to MPS Manager 3.5.

Note: These steps assume that the node name of the 3.5 upgrade is the same as the node name of the 2.1 system it is upgrading.

1. Determine upgrade path (see [MPS Manager/MMDP Upgrade Paths](#)).
2. If the 2.1 system is not at Patch Bundle 8, upgrade the 2.1 system to Patch Bundle 9 (on the old disk).
3. Install new hard disk with pre-installed Operating System (Solaris 2.10) and MPS Manager Workstation software (MPS 3.5).
4. Perform the following procedures before continuing.
 - a. [Performing Backup with Mirrored Disks](#).
 - b. [Performing Backup without Mirrored Disks](#).
 - c. [Installation of Solaris Application Processor Hard Disk](#).
 - d. [Connect Console to Solaris Application Processor](#).
 - e. [Create Mount Point on Primary Disk](#).

5. Setup networking as required. This includes, but is not limited to:
 - a. hosts
 - b. netmasks
 - c. defaultrouter
 - d. hostname.*
 - e. bootptab
 - f. nodename
6. Copy the entire /home/peri/* directory and its sub-directories from the old to the new disk.
7. Manually merge any custom entries in the root login files from the secondary to the primary nodes (i.e., .cshrc, .vshrc, ...).
8. If the PERIpdp and PERIview packages are not already installed, install them.
9. Stop MMDP (execute /etc/rc3.d/S95avaya.pdp stop).
10. Copy over the following files from the \$MPSHOME/PERIpdp/etc directory of the 2.1 system to the corresponding 3.5 system directory:
 - a. mmdp.cfg
 - b. userdb.xml

Note: Do NOT copy over the clusters.xml file to the 3.5 system - it is incompatible!

11. Run **umpconverter** to convert userdb.xml:
 - a. **cd \$MPSHOME/PERIpdp/etc**
 - b. **umpconverter**
12. Reboot.
13. Proceed to upgrade other software packages on the new box.
14. If the system upgraded was a consolidator, proceed to upgrading service MMDP systems.
15. If the system upgraded was a service MMDP which was a part of a cluster (or additionally, a redundancy group), continue upgrading other systems in the cluster.
16. After all systems in the cluster have been upgraded, use MPS Manager to recreate the cluster (the cluster must have the same systems in it as the previous cluster, although the name may be different). Then, use MPS Manager to import the redundancy configuration by going to the Advanced Actions panel and selecting a single system from the previous redundancy configuration in the cluster. See the MPS Manager 3.5 Reference Guide for further details.

PeriView 2.1 to MPS Manager 3.5 Windows Upgrade Procedure

Perform the following procedures to upgrade PeriView 2.1 to MPS Manager 3.5.

Upgrade Considerations

- The MPS 2.1 suite is removed prior to installing the MPS 3.5 suite.
- The Microsoft Windows Service Control Manager (SCM) is closed while the MPS 2.1 suite is removed and the MPS 3.5 suite is installed.
- Both the removal of the MPS 2.1 suite and the installation of the MPS 3.5 suite are performed from start to finish. DO NOT remove or install any individual MPS related package.

- The path defined by the %MPSHOME% environment variable on Windows is different for MPS 2.1 and MPS 3.5. For MPS 2.1, %MPSHOME% is C:\Program Files\Avaya. For MPS 3.5, %MPSHOME% is MPSHOME. Therefore, manually restore backup files to their respective locations.

Upgrade Procedure

Perform the steps below in the order listed.

1. Copy the following files to a designated file backup location(s) until after the upgrade.
 - %MPSHOME%\PERIpdp\etc\userdb.xml
 - %MPSHOME%\PERIpdp\etc\mmdp.cfg
2. Close Microsoft Windows Service Control Manager (SCM) window/panel if it is open.
3. Go to Add or Remove Programs in the Control Panel, and uninstall the MPS 2.1 suite (from start to finish).
4. Install the MPS 3.5 Self Service suite, which includes MPS Manager 3.5.
5. After the installation of MPS 3.5 Self Service suite is complete, open the SCM, located at:
Start -> Settings -> Control Panel -> Administrative Tools -> Services
6. Stop the Avaya MPS Manager Data Provider service from the Services panel.
7. Copy the files previously backed up in step 1, to %MPSHOME%\PERIpdp\etc (existing files in the target location can be overwritten).
8. Run the umpconverter utility.
 - a. Open a command prompt window.
 - b. Type cd %MPSHOME%\bin
 - c. Type umpconverter
 - d. Exit the command prompt.
9. Go to the SCM and start the Avaya MPS Manager Data Provider service.
10. Close the SCM.
11. Restart the machine (optional, but recommended).

MPS 2.1 to MPS 3.5 Solaris Application Processor Software Upgrade

This section describes how to perform a software upgrade on the Application Processor (AP) from MPS 2.1 (Solaris 2.8) to MPS 3.5 (Solaris 2.10). Perform the following upgrade procedures in the order listed.

Note: All examples in this section are based on c1t0d0s* as the primary disk slice and c1t1d0s* as the secondary disk slice, where * is the slice number.

Performing Backup with Mirrored Disks

If mirrored disks are used, perform the following steps:

1. Follow the preparation procedures described in Appendix A (Preparing to use mirrorbu) of the MPS Disk Mirroring Installation, Configuration and Recovery Guide.
2. Make sure the disks are in sync by executing the command:

metastat

or

/etc/mirrorcheck

- a. If the disks are not in sync, execute the command:

/etc/mirrorvps

- b. Before proceeding, the syncing process must finish. This process can take up to 30 minutes. To determine if syncing is complete, execute the command:

metastat | grep sync

If the **grep** command does not find a match for sync, then the process is complete.

3. Verify all stats are correct using the command:

metastat

4. Backup MPS 2.1 (Solaris 2.8) disk to tape using the command:

/etc/mirrorbu

5. If /mmf is located on slice s7 of the MPS 2.1 disk, this area is not mirrored and must be backed up separately. Insert a new tape and execute the **ufsdump** command on /mmf.

6. Break mirroring of disks.

- a. For detailed information on breaking mirrored disks refer to

Disabling Mirroring in the MPS Disk Mirroring Installation, Configuration and Recovery Guide.

- b. Execute **/etc/unmirror**

- c. Reboot AP.

- d. Execute **/etc/mirrorcheck**

The following message should display, "no mirrors exist".

Performing Backup without Mirrored Disks

If mirrored disks are not used, perform a tape backup using **ufsdump** command.

Installation of Solaris Application Processor Hard Disk

Caution: If two disks were shipped with this upgrade (Primary and Secondary), the term "new disk" in the procedures below refers to the Primary disk. At the end of the procedure, before re-mirroring disks, the existing MPS 2.1 disk is replaced with the Secondary disk.

1. For systems with mirrored disks.

- a. Execute command:

poweroff

- b. Remove primary disk in slot 0 (MPS 2.1, Solaris 2.8) and replace with new disk (MPS 3.5, Solaris 2.10).

- c. Label and store removed disk.

2. For systems without mirrored disks.

- a. Execute command:

poweroff

- b. Move primary disk in slot 0 (MPS 2.1, Solaris 2.8) to secondary disk location (slot 1).
 - c. Insert new disk (MPS 3.5, Solaris 2.10) into primary disk location(slot 0).
3. Execute command:

poweron

Be sure to get the proper vendor replacement and language models if appropriate.

Connect Console to Solaris Application Processor

4. Connect a console to the Lights Out Management (LOM) port on the application processor.
5. If at the ok prompt execute **boot -r**.
6. If at the sc prompt (sc>), execute **console**.
 - a. Hit ENTER.
 - b. Execute **boot -r**.

Perform the following procedures using HyperTerminal.

Create Mount Point on Primary Disk

After the system comes up, mount the secondary disk (root slice, s0) to /mnt on the primary disk.

mount /dev/dsk/<secondary_disk_name>s0 /mnt

where <secondary_disk_name> is determined by executing the **format** command and observing the output. In the following example, the secondary disk is named c1t1d0.

```
# format
Searching for disks...done

AVAILABLE DISK SELECTIONS:
  0. c1t0d0 <SUN36G cyl 24620 alt 2 hd 27 sec 107>
    /pci@1f,0/pci@1/scsi@8/sd@0,0
  1. c1t1d0 <SUN36G cyl 24620 alt 2 hd 27 sec 107>
    /pci@1f,0/pci@1/scsi@8/sd@1,0
Specify disk (enter its number):
```

Configure the Network

Setup networking as required. Copy the files listed below from the etc directory on the secondary disk (/mnt/etc) to the etc directory on the primary disk (/etc).

- hosts
- netmasks
- defaultrouter
- hostname.*
- bootptab
- nodename

Reboot the System

Login as root.

Configure Components

Create the same component configuration on the new primary disk that exists on the secondary disk.

1. Mount the secondary disk (/opt slice, s5) to /mnt on the primary disk.
mount /dev/dsk/<secondary_disk_name>s5 /mnt
To determine <secondary_disk_name>, see [Create Mount Point on Primary Disk](#).
2. **cd** /mnt/vps
3. **ls** or **vhman** (examine components on secondary disk (for example: mps1, mps2, mpsN, tmscomm1, tmscomm2, tmscommN))
Record components from secondary disk.
4. **cd** /opt/vps
5. **ls** or **vhman** (examine components on new primary disk)
6. Stop srp by executing the **srp -kill** command.
7. If a component on the new primary disk does not exist on the secondary disk, remove it with the following command.
rmcmp
8. If a component exists on the secondary disk but not on the primary disk, add it with the following command.
mkcmp
or
mkmps (to add an mps component)
or
mktmscomm (to add a tmscomm component)
9. Validate components were created or removed correctly by executing **vhman** command.
10. Restart srp.

Copy Configuration Files

Note: Before proceeding, ensure the s5 slice of the secondary disk is mounted, see [Configure Components](#).

1. Copy the following files or directories from the secondary disk (/mnt) to the new primary disk (/opt).
Note: For the following directories be sure to use the full path /mnt/vps/packages in the source path of the copy command. Also use the recursive option (-R) in the copy command. For example,
cp -R /mnt/vps/packages/aseX.X.X/stats
\$MPSHOME/PERIase/stats
where X.X.X is the version of the package.
/home/peri/* (entire contents of the /home/peri directory)
\$MPSHOME/PERIase/stats
\$MPSHOME/PERIase/copy

\$MPSHOME/PERIase/etc/services
\$MPSHOME/PERIplic/etc
\$MPSHOME/PERIpdp/etc/mmdp.cfg
\$MPSHOME/PERIpdp/etc/userdb.xml
\$MPSHOME/PERIccxml/etc

Note: If additional MPS 3.5 features were purchased with new license keys after the \$MPSHOME/PERIplic/etc directory was copied over, merge the new license keys into the plservc file within \$MPSHOME/PERIplic/etc.

2. Run **umpconverter** to convert userdb.xml:

Caution: **umpconverter** must be run as user peri, but with root permission (su -).

- a. cd \$MPSHOME/PERIpdp/etc
- b. umpconverter

3. Restore the backed up /mmf file system from tape using the **ufsrestore** command.
4. Manually merge any custom entries in the root login files (ex: .cshrc,.vshrc, siterc.csh, siterc.sh etc.) from the secondary to the primary nodes.

The siterc.csh and siterc.sh files may require editing to reflect any changes in environment variable settings (for example; ORACLE_HOME)

Backup PSO Application Files

Backup all application files created by the Professional Services Organization (APS) which exist in the following location.

The top level project directory created by PSO is defined by environment variable \$BASEPATH. \$BASEPATH is set in the .cshrc file in /home/peri. Typically \$BASEPATH points to /home/peri/<project_descriptor> where <project_descriptor> identifies the associated project.

The project directory described above (\$BASEPATH) is the typical location of all directories and files used by PSO for storing custom applications. However, this may not reflect the locations of all applications on the system.

Update Configuration Files with Site Specific Information

Before proceeding, ensure the s5 slice of the secondary disk is mounted, see [Configure Components](#).

View the contents of the files mentioned below on the secondary disk to determine if they contain any site specific information. If not, then do not modify the files on the primary disk. If they do, then the information needs to be merged into the files on the primary disk.

Merging files on Primary Server

Manually merge the files in the following directories on the secondary disk (/mnt) to the ones on the primary disk (/opt):

\$MPSHOME/common/etc
\$MPSHOME/common/etc/tms (protocol files)
\$MPSHOME/common/etc/tms/tms.cfg
\$MPSHOME/mpsN/etc (where N is one or more component numbers).
\$MPSHOME/mpsN/apps

After copying gen.cfg, delete the entry for RCD, if it exists. RCD is no longer supported.

Do not copy the rcd.cfg file, since some configuration option names have changed, see table below.

MPS 2.1 process:option	MPS 3.0 process:option
TRIP : auto-failback hard soft off	RCD : autoFailback on off
TRIP : manual-failback hard soft off	RCD : failback
TRIP : restart-tms on off	RCD : startupMode cold warm call-protect cp

Some of the commands in an MPS 2.1 trip.cfg file are no longer supported in an MPS 3.5 trip.cfg file. These options were moved to:

\$MPSHOME/common/etc/rcd.cfg (for a primary AP) or

\$MPSHOME/common.standby/etc/rcd.cfg (for a standby AP).

Update Application Site Specific Information

Copy/Merge/Install/Configure any application/site specific data such as MPS Developer applications, Java classes, third party software, users, etc.

Co-Resident Software Packages

If the MPS Application Processor has Co-Resident CCSS (SS7 or SIP) or CCTIVR(Windows based APs only) software packages see [CCSS 6.3 Co-Resident on Solaris 2.8 AP Upgrade to Solaris 2.10](#) (SS7), [CCSS 6.3 SIP Co-Resident Upgrade to Windows 2003 Server](#) (SIP), and [Co-Residency Considerations](#) (CCTIVR).

When complete, return here and continue with the remaining procedures.

Reset the System

1. Reboot the Application Processor.
2. Reset the NICs.
3. Recycle power on the TMS.

Test Upgraded System

Thoroughly test the upgraded system by running the appropriate Field Factory Test procedure, see [Field Factory Tests](#).

Remirror the Disks

Ensure all testing of the upgraded system completed successfully before mirroring the disks. Also note, the mirroring process can take several hours to complete.

! If two disks were shipped with this upgrade (Primary and Secondary), remove the MPS 2.1 disk in slot 1 and replace with the new Secondary disk before mirroring.

If appropriate, remirror the disks.

Execute **/etc/mirrorvps**

For detailed information on remirroring disks refer to the *MPS Disk Mirroring Installation, Configuration and Recovery Guide*.

MPS 2.1 to MPS 3.5 N+1 Standby Solaris Server Software Upgrade

This section describes how to perform a software upgrade on the N+1 Standby Server from MPS 2.1 (Solaris 2.8) to MPS 3.5 (Solaris 2.10). Perform the following upgrade procedures in the order listed.

All examples in this section are based on c1t0d0s* as the primary disk slice and c1t1d0s* as the secondary disk slice, where * is the slice number.

Performing Backup with Mirrored Disks

If mirrored disks are used, perform the following steps:

1. Follow the preparation procedures described in Appendix A (Preparing to use mirrorbu) of the MPS Disk Mirroring Installation, Configuration and Recovery Guide.
2. Make sure the disks are in sync by executing the command:

metastat

or

/etc/mirrorcheck

- a. If the disks are not in sync, execute the command:

/etc/mirrorvps

- b. Before proceeding, the syncing process must finish. This process can take up to 30 minutes. To determine if syncing is complete, execute the command:

metastat | grep sync

If the **grep** command does not find a match for sync, then the process is complete.

3. Verify all stats are correct using the command:

metastat

4. Backup MPS 2.1 (Solaris 2.8) disk to tape using the command:

/etc/mirrorbu

5. If /mmf is located on slice s7 of the MPS 2.1 disk, this area is not mirrored and must be backed up separately. Insert a new tape and execute the **ufsdump** command on /mmf.

6. Break mirroring of disks.

- a. For detailed information on breaking mirrored disks refer to Disabling Mirroring in the MPS Disk Mirroring Installation, Configuration and Recovery Guide.

- b. Execute **/etc/unmirror**

- c. Reboot AP.

- d. Execute **/etc/mirrorcheck**

The following message should display, "no mirrors exist".

Performing Backup without Mirrored Disks

If mirrored disks are not used, perform a tape backup using **ufsdump** command.

Installation of Solaris Standby Server Hard Disk

If two disks were shipped with this upgrade (Primary and Secondary), the term "new disk" in the procedures below refers to the Primary disk. At the end of the procedure, before re-mirroring disks, the existing MPS 2.1 disk is replaced with the Secondary disk.

1. For systems with mirrored disks.
 - a. Execute command:
poweroff
 - b. Remove primary disk in slot 0 (MPS 2.1, Solaris 2.8) and replace with new disk (MPS 3.5, Solaris 2.10).
 - c. Label and store removed disk.
2. For systems without mirrored disks.
 - a. Execute command:
poweroff
 - b. Move primary disk in slot 0 (MPS 2.1, Solaris 2.8) to secondary disk location (slot 1).
 - c. Insert new disk (MPS 3.5, Solaris 2.10) into primary disk location (slot 0).
3. Execute command:
poweron

Be sure to get the proper vendor replacement and language models if appropriate.

Connect Console to Solaris Standby Server

1. Connect a console to the Lights Out Management (LOM) port on the standby server.
2. If at the ok prompt execute **boot -r**.
3. If at the sc prompt (sc>), execute **console**.
 - a. Hit ENTER.
 - b. Execute **boot -r**.

Perform the following procedures using HyperTerminal.

Create Mount Point on Primary Disk

After the system comes up, mount the secondary disk (root slice, s0) to /mnt on the primary disk.

mount /dev/dsk/<secondary_disk_name>s0 /mnt

where <secondary_disk_name> is determined by executing the **format** command and observing the output. In the following example, the secondary disk is named c1t1d0.

```
# format
Searching for disks...done

AVAILABLE DISK SELECTIONS:
  0. c1t0d0 <SUN36G cyl 24620 alt 2 hd 27 sec 107>
    /pci@1f,0/pci@1/scsi@8/sd@0,0
  1. c1t1d0 <SUN36G cyl 24620 alt 2 hd 27 sec 107>
    /pci@1f,0/pci@1/scsi@8/sd@1,0
Specify disk (enter its number):
```

Configure the Network

Setup networking as required. Copy the files listed below from the etc directory on the secondary disk (/mnt/etc) to the etc directory on the primary disk (/etc).

- hosts
- netmasks
- defaultrouter
- hostname.*
- bootptab
- nodename

Reboot the System

Login as root.

Configure Components

Create the same component configuration on the new primary disk that exists on the secondary disk.

1. Mount the secondary disk (/opt slice, s5) to /mnt on the primary disk.

```
mount /dev/dsk/<secondary_disk_name>s5 /mnt
```

To determine <secondary_disk_name>, see [Create Mount Point on Primary Disk](#).

2. **cd** /mnt/vps

3. **ls** or **vhman** (examine components on secondary disk (for example: mps1, mps2, mpsN, tmscomm1, tmscomm2, tmscommN))

Record components from secondary disk.

4. **cd** /opt/vps

5. **ls** or **vhman** (examine components on new primary disk)

6. Stop srp by executing the **/etc/rc3.d/S20vps.startup stop** or **srp -kill** command.

7. If a component on the new primary disk does not exist on the secondary disk, remove it with the following command.

```
rmcmp
```

8. If a component exists on the secondary disk but not on the primary disk, add it with the following command.

```
mkcmp
```

or

```
mkmps (to add an mps component)
```

or

```
mktmscomm (to add a tmscomm component)
```

9. Validate components were created or removed correctly by executing

```
vhman command.
```

10. Restart **srp**.

11. Execute the following scripts.

config_redundant_node.pl

setstandby.pl

Copy Configuration Files

Before proceeding, ensure the s5 slice of the secondary disk is mounted, see [Configure Components](#).

1. Copy the following files or directories from the secondary disk (/mnt) to the new primary disk (/opt).

Be sure to use the full path /mnt/vps/packages in the source path of the copy command. For example,

cp -R /mnt/vps/packages/aseX.X.X/stats

\$MPSHOME/PERIase/stats

where **X.X.X** is the version of the package.

/home/peri/* (entire contents of the /home/peri directory)

\$MPSHOME/PERIase/stats

\$MPSHOME/PERIase/copy

\$MPSHOME/PERIase/etc/services

\$MPSHOME/PERIplic/etc

\$MPSHOME/PERIpdp/etc/mmdp.cfg

\$MPSHOME/PERIpdp/etc/userdb.xml

\$MPSHOME/PERIccxml/etc

If additional MPS 3.5 features were purchased with new license keys after the \$MPSHOME/PERIplic/etc directory was copied over, merge the new license keys into the plservc file within \$MPSHOME/PERIplic/etc.

2. Run umpconverter to convert userdb.xml:
 - a. **cd \$MPSHOME/PERIpdp/etc**
 - b. **umpconverter**
3. Restore the backed up /mmf file system from tape using the **ufsrestore** command.
4. Manually merge any custom entries in the root login files (ex: .cshrc,.vshrc, etc.) from the secondary to the primary nodes.

Backup APS Application Files

Backup all application files created by the Professional Services Organization (PSO) which exist in the following location.

The top level project directory created by PSO is defined by environment variable \$BASEPATH. \$BASEPATH is set in the .cshrc file in /home/peri. Typically \$BASEPATH points to /home/peri/<project_descriptor> where <project_descriptor> identifies the associated project.

The project directory described above (\$BASEPATH) is the typical location of all directories and files used by PSO for storing custom applications. However, this may not reflect the locations of all applications on the system.

Update Configuration Files with Site Specific Information

Before proceeding, ensure the s5 slice of the secondary disk is mounted, see [Configure Components](#).

View the contents of the files mentioned below on the secondary disk to determine if they contain any site specific information. If not, then do not modify the files on the primary disk. If they do, then the information needs to be merged into the files on the primary disk.

Merging Files on Standby Server

Manually merge the files in the following directories on the secondary disk (/mnt) to the ones on the primary disk (/opt):

\$MPSHOME/common.standby/etc

\$MPSHOME/mpsN.standby/etc (where N is one or more component numbers).

After copying gen.cfg, delete the entry for RCD, if it exists. RCD is no longer supported by SRP.

Do not copy the rcd.cfg file, since some configuration option names have changed, see table below.

MPS 2.1 process:option	MPS 3.0 process:option
TRIP : auto-failback hard soft off	RCD : autoFailback on off
TRIP : manual-failback hard soft off	RCD : failback
TRIP : restart-tms on off	RCD : startupMode cold warm call-protect cp

Some of the commands in an MPS 2.1 trip.cfg file are no longer supported in an MPS 3.5 trip.cfg file. These options were moved to:

\$MPSHOME/common/etc/rcd.cfg (for a primary AP) or

\$MPSHOME/common.standby/etc/rcd.cfg (for a standby AP).

Merge the contents of the following files on the secondary disk to the files on the primary disk:

- If PERlvxml is installed:
\$MPSHOME/PERlvxml/config/SBclient.cfg
\$MPSHOME/PERlvxml/config/AvayaDefaults.xml
- If PERljsb is installed:
\$MPSHOME/PERljsb/etc
- \$MPSHOME/common/etc/vpshosts

Update Application Site Specific Information

Copy/Merge/Install/Configure any application/site specific data such as MPS Developer applications, Java classes, third party software, users, etc.

Co-Resident Software Packages

If the Standby Server has Co-Resident CCSS (SS7 or SIP) or CCTIVR (Windows based APs only) software packages see [CCSS 6.3 Co-Resident on Solaris 2.8 AP. Upgrade to Solaris 2.10](#) (SS7), [CCSS 6.3 SIP Co-Resident Upgrade to Windows 2003 Server](#) (SIP), and [Co-Residency Considerations](#) (CCTIVR).

When complete, return here and continue with the remaining procedures.

Reset the System

1. Reboot the Application Processor.

2. Reset the NICs.
3. Recycle power on the TMS.

Test Upgraded System

Thoroughly test the upgraded system by running the appropriate Field Factory Test procedure, see [Field Factory Tests](#).

Remirror the Disks

Ensure all testing of the upgraded system completed successfully before mirroring the disks. Also note, the mirroring process can take several hours to complete.

If two disks were shipped with this upgrade (Primary and Secondary), remove the MPS 2.1 disk in slot 1 and replace with the new Secondary disk before mirroring.

If appropriate, remirror the disks.

Execute ***!etc/mirrorvps***

For detailed information on remirroring disks refer to the *MPS Disk Mirroring Installation, Configuration and Recovery Guide*.

N+1 Redundancy and Call Protect Configuration and Validation

To configure and validate N+1 Redundancy and Call Protect, refer to the chapter N+1 Redundancy and Call Protect in the MPS System Reference Manual.

MPS 2.1 to MPS 3.5 Windows Application Processor Software Upgrade

This section describes how to perform a software upgrade on the Application Processor (AP) from MPS 2.1 (Windows 2000) to MPS 3.5 (Windows 2003). Perform the following upgrade procedures in the order listed.

The following convention is used to refer to the original MPS 2.1 disk and the new MPS 3.5 disk:

- MPS 3.5 disk - new disk
- MPS 2.1 disk - original disk

Performing Backup of Files

Backup files specified in the directories below to another disk for later restoration.

Backup All Files in the Following Directories

%MEDIAFILEHOME% (directory where all MMF files reside)

%MPSHOME%\common\etc

%MPSHOME%\mpsN\etc

%MPSHOME%\mpsN\apps

%MPSHOME%\PERIase\stats

%MPSHOME%\PERIase\copy

%MPSHOME%\PERIase\etc\services

%MPSHOME%\PERIplic\etc

%MPSHOME%\PERIpdp\etc\mmdp.cfg

%MPSHOME%\PERIpdp\etc\userdb.xml

%MPSHOME%\PERIccxml\etc

%MPSHOME%\PERIvxml\config

Backup the Following Files

C:\WINNT\system32\drivers\etc\hosts

C:\WINNT\system32\drivers\etc\bootptab

Backup APS Application Files

Backup all application files created by the Professional Services Organization (APS) which exist in the following location.

The top level project directory created by APS is defined by environment variable %BASEPATH%. Typically %BASEPATH% points to ...\

The project directory described above (%BASEPATH%) is the typical location of all directories and files used by PSO for storing custom applications. However, this may not reflect the locations of all applications on the system.

Installation of Windows Application Processor Hard Disk

Before replacing the disk, be sure to record the System Name, LAN IP addresses, Domain Name configured, and relevant environment settings on the original disk. Windows Application Processors perform disk mirroring in hardware rather than software through the use of Redundant Array of Independent Disks (RAID).

Configure the Network

Replace the network settings on the new disk with the settings recorded earlier (System Name, LAN IP addresses, and Domain Name).

Restore the following networking files (backed up from old disk) to C:\WINDOWS\system32\drivers\etc.

- hosts
- bootptab

Reboot the System

Login as administrator.

Configure Components

Create the same component configuration on the new disk that existed on the original disk. The original MPS components were backed up previously. Those components are used to re-create/update the components on the new MPS disk.

1. **cd** %MPSHOME%
2. **dir** or **vhman** (examine components on the new disk)
3. Stop the Avaya MPS Service.
4. If a component on the new disk did not exist on the original disk, remove it with the following command.
rmcmp
5. If a component exists on the original disk but not on the new disk, add it with the following command.
mkcmp

or

mkmps (to add an mps component)

or

mktmscomm (to add a tmscomm component)

6. Validate components were created or removed correctly by executing **vhman** command.
7. Restart srp.

Copy Configuration Files

1. Restore the following files or directories that were backed up from the original disk.

%MPSHOME%\PERIase\stats

%MPSHOME%\PERIase\copy

%MPSHOME%\PERIase\etc\services

%MPSHOME%\PERIplic\etc

%MPSHOME%\PERIpdp\etc\mmdp.cfg

%MPSHOME%\PERIpdp\etc\userdb.xml

%MPSHOME%\PERIccxml\etc

%MPSHOME%\PERIvxml\config

%MPSHOME%\PERIjsb\etc

If additional MPS 3.5 features were purchased with new license keys after the %MPSHOME%\PERIplic\etc directory was copied over, merge the new license keys into the plservc file within %MPSHOME%\PERIplic\etc.

2. Run **umpconverter** to convert userdb.xml:

umpconverter must be run as user peri, but with Administrator permissions.

c. **cd** %MPSHOME%\PERIpdp\etc

d. **umpconverter**

3. Restore the backed up MMF file system.
4. Manually merge any custom entries in the .vshrc file from the original disk to the new disk.

Restore APS Application Files

Restore all application files created by the Professional Services Organization (APS). First setup the %BASEPATH% environment variable to match the original MPS disk. Then copy all of the previously backed up APS files into %BASEPATH% of the new disk.

Update Configuration Files with Site Specific Information

View the contents of the files mentioned below that were backed up from the original disk to determine if they contain any site specific information. If not, then do not modify the files on the new disk. If they do, then the information needs to be merged into the files on the new disk.

Merging files on Primary Server

Manually merge the files in the following directories, which were backed up from the original disk to the ones on the new disk:

%MPSHOME%\common\etc

%MPSHOME%\common\etc\tms (protocol files)

%MPSHOME%\common\etc\tms\tms.cfg

%MPSHOME%\mpsN\etc (where N is one or more component numbers).

%MPSHOME%\mpsN\apps

After copying gen.cfg, delete the entry for RCD, if it exists. RCD is no longer supported.

Do not copy the rcd.cfg file, since some configuration option names have changed, see table below.

MPS 2.1 process:option	MPS 3.0 process:option
TRIP : auto-failback hard soft off	RCD : autoFailback on off
TRIP : manual-failback hard soft off	RCD : failback
TRIP : restart-tms on off	RCD : startupMode cold warm call-protect cp

Some of the commands in an MPS 2.1 trip.cfg file are no longer supported in an MPS 3.5 trip.cfg file. These options were moved to:

%MPSHOME%\common\etc\rcd.cfg (for a primary AP) or

%MPSHOME%\common.standby\etc\rcd.cfg (for a standby AP).

Update Application Site Specific Information

Copy/Merge/Install/Configure any application/site specific data such as MPS Developer applications, Java classes, third party software, users, etc.

Co-Resident Software Packages

If the MPS Application Processor has Co-Resident CCSS (SS7 or SIP) or CCTIVR (Windows based APs only) software packages see [CCSS 6.3 Co-Resident on Solaris 2.8 AP Upgrade to Solaris 2.10](#) (SS7), [CCSS 6.3 SIP Co-Resident Upgrade to Windows 2003 Server](#) (SIP), and [Co-Residency Considerations](#) (CCTIVR).

When complete, return here and continue with the remaining procedures.

Reset the System

1. Reboot the Application Processor.
2. Reset the NICs.
3. Recycle power on the TMS.

Test Upgraded System

Thoroughly test the upgraded system by running the appropriate Field Factory Test procedure, see [Field Factory Tests](#).

MPS 2.1 to MPS 3.5 N+1 Standby Windows Server Software Upgrade

This section describes how to perform a software upgrade on the N+1 Standby Server from MPS 2.1 (Windows 2000) to MPS 3.5 (Windows 2003). Perform the following upgrade procedures in the order listed.

The following convention is used to refer to the original MPS 2.1 disk and the new MPS 3.5 disk:

- MPS 3.5 disk - new disk
- MPS 2.1 disk - original disk

Performing Backup of Files

Backup files specified in the directories below to another disk for later restoration.

Backup All Files in the Following Directories

%MEDIAFILEHOME% (directory where all MMF files reside)

%MPSHOME%\common.standby\etc

%MPSHOME%\mpsN.standby\etc

%MPSHOME%\PERIase\stats

%MPSHOME%\PERIase\copy

%MPSHOME%\PERIase\etc\services

%MPSHOME%\PERIplic\etc

%MPSHOME%\PERIpdp\etc\mmdp.cfg

%MPSHOME%\PERIpdp\etc\userdb.xml

%MPSHOME%\PERIccxml\etc

%MPSHOME%\PERIvxml\config

Backup the Following Files

C:\WINNT\system32\drivers\etc\hosts

C:\WINNT\system32\drivers\etc\bootptab

Backup APS Application Files

Backup all application files created by the Professional Services Organization (APS) which exist in the following location.

The top level project directory created by APS is defined by environment variable %BASEPATH%. Typically %BASEPATH% points to ...\

The project directory described above (%BASEPATH%) is the typical location of all directories and files used by PSO for storing custom applications. However, this may not reflect the locations of all applications on the system.

Installation of Windows Standby Server Hard Disk

Before replacing the disk, be sure to record the System Name, LAN IP addresses, Domain Name configured, and relevant environment settings on the original disk.

Windows Application Processors perform disk mirroring in hardware rather than software through the use of Redundant Array of Independent Disks (RAID).

Configure the Network

Replace the network settings on the new disk with the settings recorded earlier (System Name, LAN IP addresses, and Domain Name).

Restore the following networking files (backed up from old disk) to C:\WINDOWS\system32\drivers\etc.

- hosts

- bootptab

Reboot the System

Login as administrator.

Configure Components

Create the same component configuration on the new disk that existed on the original disk. The original MPS standby components were backed up previously. Those components are used to re-create/update the components on the new MPS disk.

1. **cd** %MPSHOME%
2. **dir** or **vhman** (examine components on the new disk)
3. Stop the Avaya MPS Service.
4. If a component on the new disk did not exist on the original disk, remove it with the following command.
rmcmp
5. If a component exists on the original disk but not on the new disk, add it with the following command.
The mpsN.standby component, that was previously backed up, must be added to the new disk as mpsN.
A script is run later to reconfigure the new disk with a standby configuration.
mkcmp
or
mkmps (to add an mps component)
or
mktmscomm (to add a tmscomm component)
6. Validate components were created or removed correctly by executing **vhman** command.
7. Execute the following scripts.
config_redundant_node.pl
setstandby.pl
8. Restart srp.

Copy Configuration Files

1. Restore the following files or directories that were backed up from the original disk.
%MPSHOME%\PERlase\stats
%MPSHOME%\PERlase\copy
%MPSHOME%\PERlase\etc\services
%MPSHOME%\PERlplic\etc
%MPSHOME%\PERlpdp\etc\mmdp.cfg
%MPSHOME%\PERlpdp\etc\userdb.xml
%MPSHOME%\PERlccxml\etc
%MPSHOME%\PERlvxml\config
%MPSHOME%\PERljsb\etc

If additional MPS 3.5 features were purchased with new license keys after the %MPSHOME%\PERIplic\etc directory was copied over, merge the new license keys into the plservc file within MPSHOME%\PERIplic\etc.

2. Run **umpconverter** to convert userdb.xml:

umpconverter must be run as user peri, but with Administrator permissions.

- a. cd %MPSHOME%\PERIpdp\etc

- b. **umpconverter**

3. Restore the backed up MMF file system.

4. Manually merge any custom entries in the .vshrc file from the original disk to the new disk.

Restore APS Application Files

Restore all application files created by the Professional Services Organization (APS). First setup the %BASEPATH% environment variable to match the original MPS disk. Then copy all of the previously backed up APS files into %BASEPATH% of the new disk.

Update Configuration Files with Site Specific Information

View the contents of the files mentioned below that were backed up from the original disk to determine if they contain any site specific information. If not, then do not modify the files on the new disk. If they do, then the information needs to be merged into the files on the new disk.

Merging Files on Standby Server

Manually merge the files in the following directories from the original disk to the ones on the new disk:

%MPSHOME%\common.standby\etc

%MPSHOME%\mpsN.standby\etc (where N is one or more component numbers).

After copying gen.cfg, delete the entry for RCD, if it exists. RCD is no longer supported by SRP. Do not copy the rcd.cfg file, since some configuration option names have changed, see table below.

MPS 2.1 process:option	MPS 3.0 process:option
TRIP : auto-failback hard soft off	RCD : autoFailback on off
TRIP : manual-failback hard soft off	RCD : failback
TRIP : restart-tms on off	RCD : startupMode cold warm call-protect cp

Some of the commands in an MPS 2.1 trip.cfg file are no longer supported in an MPS 3.5 trip.cfg file. These options were moved to:

%MPSHOME%\common\etc\rcd.cfg (for a primary AP) or

%MPSHOME%\common.standby\etc\rcd.cfg (for a standby AP).

Merge the contents of the following files from the original disk to the files on the new disk:

- If PERIccxml is installed:
%MPSHOME%\PERIccxml\etc
- If PERIvxml is installed:
%MPSHOME%\PERIvxml\config\SBclient.cfg

- If PERIjsb is installed:
%MPSHOME%\PERIjsb\etc
- %MPSHOME%\common\etc\vpshosts

Update Application Site Specific Information

Copy/Merge/Install/Configure any application/site specific data such as MPS Developer applications, Java classes, third party software, users, etc.

Co-Resident Software Packages

If the Standby Server has Co-Resident CCSS (SS7 or SIP) or CCTIVR (Windows based APs only) software packages see [CCSS 6.3 Co-Resident on Solaris 2.8 AP Upgrade to Solaris 2.10](#) (SS7), [CCSS 6.3 SIP Co-Resident Upgrade to Windows 2003 Server](#) (SIP), and [Co-Residency Considerations](#) (CCTIVR).

When complete, return here and continue with the remaining procedures.

Reset the System

1. Reboot the Application Processor.
2. Reset the NICs.
3. Recycle power on the TMS.

Test Upgraded System

Thoroughly test the upgraded system by running the appropriate Field Factory Test procedure, see [Field Factory Tests](#).

N+1 Redundancy and Call Protect Configuration and Validation

To configure and validate N+1 Redundancy and Call Protect, refer to the chapter N+1 Redundancy and Call Protect in the MPS System Reference Manual.

MPS 2.1 to MPS 3.5 Speech Upgrade Issues

This section addresses issues to consider when upgrading from MPS 2.1 speech resource processing to MPS 3.5 speech resource processing using either Nuance 8.5, SpeechWorks OSR 3.0.x, or RealSpeak 4.5.

For information about installing speech resource processing in the MPS 3.5 environment, refer to the MPS 3.5 Speech Server 6.5 Installation Guide and Release Notes.

For information specific to Nuance 8.5, SpeechWorks OSR 3.0.x, or RealSpeak 4.5, refer to the individual MPS Speech Server 6.5 Resource Guides.

Upgrade to MPS 3.5 Nuance 8.5

When upgrading to Nuance 8.5 on MPS 3.5, issues that may need to be addressed include: licensing, upgrade from Nuance 8.0, upgrade from Nuance 8.5.

For information about Nuance 8.5 resource processing, refer to the MPS Speech Server 6.5.1 Nuance 8.x Resource Guide.

For information about installing Nuance 8.5 in the MPS 3.5 environment, refer to the MPS 3.5 Speech Server 6.5.1 Installation Guide and Release Notes.

MPS 3.5 Nuance 8.5 Licensing

The Nuance License Manager (nlm) manages the distribution of Nuance resources to the Speech Server nodes. The Nuance license contains information for the Nuance 8.5 resource.

- In an MPS 2.1 environment, typically, the Nuance License Manager and license file resides on one or more MPS Application Processor nodes.
- In an MPS 3.5 environment, the Nuance License Manager and license file resides on one or more Speech Server nodes.

For information about licensing Nuance 8.5 in an MPS 3.5 environment resource, refer to the MPS Speech Server 6.5 Nuance 8.x Resource Guide.

Upgrade from Nuance 8.0 to Nuance 8.5

When upgrading from Nuance 8.0 (MPS 2.1) to Nuance 8.5 (MPS 3.5), consider the following issues: configuration, grammar compatibility, licensing, and other upgrade issues.

For information about installing Nuance 8.5, refer to the MPS 3.5 Speech Server 6.5 Installation Guide and Release Notes.

For information about the differences between Nuance 8.0 and Nuance 8.5 and using the Nuance 8.5 resource, refer to the MPS Speech Server 6.5 Nuance 8.x Resource Guide.

Configuration

It is important to address the following configuration issues (directory structure, system configuration file, nuance-resources.site file).

Directory Structure

Nuance files are installed into Nuance release-specific directories.

- Nuance 8.0.0 software was installed into the directory C:\Nuance\V8.0.0.
- Nuance 8.5.0 software is installed into directory C:\Nuance\V8.5.0.

The path where the Environment Variable %NUANCE% points is based on the directory where Nuance software is installed.

- %NUANCE% for Nuance 8.0 pointed to C:\Nuance\v8.0.0.
- %NUANCE% for Nuance 8.5 points to C:\Nuance\v8.5.0.

The file paths specified in configuration files are version-specific and depend on the version of Nuance installed on the node. For example, the gen.cfg file on a Speech Server node installed with Nuance 8.5 contains the following RECSERVER command line.

```
RECSERVER- - 2 0
```

```
"C:\Nuance\V8.5.0\bin\win32\recserver.exe -package
```

```
C:\Nuance\V8.5.0\sample-packages\digits"
```

System Configuration File

Site-specific settings can be propagated from the backup copy of the Nuance 8.0 system configuration file (sys-lvr-nuance.cfg). This file resides in the following directory path.

```
%Systemdrive%\Avaya\oscar\Netc\
```

```
nuances-resource.site File
```

If the nuance-resources.site file is used from a previous release of Nuance, ensure that the following timers are set as indicated below in order for Nuance 8.5 to function properly.

client.MinPreSpeechSilenceSecs 0

client.NoSpeechTimeoutSecs 0

client.TooMuchSpeechTimeoutSecs 0

client.RecognizerTooSlowTimeoutSecs 0

Grammar Compatibility

To use a grammar compiled for an earlier version of Nuance with Nuance 8.5 acoustic models, use the Nuance 8.5 nuance-compile tool recompile the grammar package.

To ensure backward compatibility, refer to the section of the nuanceresource.site file with the heading BACKWARD COMPATIBILITY. The nuance-resource.site file resides in the following directory path:
%NUANCE%\data\nuance-resource.site

Licensing

When upgrading from Nuance 8.0, be sure to obtain a license that is valid for Nuance 8.5. The Nuance License Manager and license file reside on the Speech Server node, not the MPS Application Processor node. See [MPS 3.5 Nuance 8.5 Licensing](#).

Other Upgrade Issues

The following topics apply when upgrading from Nuance 8.0 to Nuance 8.5.

Nuance Call Log Record

The Nuance Call Logging feature collects recognition data as text and audio files. Successive releases of Nuance provide call log records that report additional information, which enhance performance analysis and tuning capability. For additional information, refer to the MPS Speech Server 6.5 Nuance 8.x Resource Guide.

Parameter Changes

Nuance 8.x brings both new parameters and new default values for some existing parameters to Nuance resource processing.

- Use the MPS Speech Server 6.5 Nuance 8.x Resource Guide for information about parameters that originate from Avaya and Nuance communications.
- Use the documentation provided by Nuance Communications for additional information about Nuance parameters.

Upgrade to MPS 3.5 SpeechWorks OSR 3.0.x

When upgrading to SpeechWorks OSR 3.0.x on MPS 3.5, consider the following issues: upgrade from OSR 1.1.x, upgrade from OSR 2.0.x, and transition from SpeechPearl 8.1.

For information about SpeechWorks OSR 3.0.x resource processing, refer to the MPS Speech Server 6.5 SpeechWorks OSR 3.x Resource Guide.

For information about installing SpeechWorks OSR 3.0.x in the MPS 3.5 environment, refer to the MPS 3.5 Speech Server 6.5 Installation Guide and Release Notes.

Upgrade OSR 1.1.x to OSR 3.0.x

When upgrading from SpeechWorks OSR 1.1.x to SpeechWorks OSR 3.0.x, consider the following issues: configuration, grammars, licensing, and other upgrade issues.

Configuration

The following issues need to be addressed: directory structure and the system configuration file.

Directory Component Structure

SpeechWorks OSR 3.0.x is designed so that resource processing occurs on a Speech Server node configured with a single Speech Server component. SpeechWorks OSR 1.1.x resource processing required a Speech Server node configured with two components. The installation process configured a single component for OSR 3.0.x processing on the Speech Server node.

System Configuration File

Site-specific settings can be propagated from the backup copy of the OSR 1.1.x system configuration file (sys-lvr-speechworks.cfg). This file resides in the following directory path.

%Systemdrive%\Avaya\oscar\etc\

Grammar Files

The format and location of grammar files need to be addressed.

Grammar File Format

When upgrading from one OSR release to another (minor or major), recompile the grammars with the SpeechWorks Grammar Compiler (sgc) compiler associated with the new release. In addition, other modifications to OSR 1.1.x grammars may be required before recompiling them for use with OSR 3.0.x.

SpeechWorks OSR 3.0.x provides a tool named xml2xml for the purpose of converting older XML grammars to the new format. OSR 3.0.x does not support OSR 1.1.x grammars. After upgrading from OSR 1.1.x to OSR 3.0.x, the grammars created for OSR 1.1.x need to be converted, recompiled, and redistributed across all Speech Server nodes to make them usable.

For information about converting and recompiling grammars, refer to the OSR 3.0.x Grammar Developer Guide distributed by ScanSoft, Inc.

Grammar File Location

The variable INET_URL_BASE identifies the directory where grammars reside and allows referencing a grammar without specifying an absolute path.

RCM sets INET_URL_BASE as a process-specific variable to a default value, if INET_URL_BASE is not set as a User Defined System Environment Variable when SRP starts on the Speech Server node.

- in OSR 1.1.x, RCM sets INET_URL_BASE to:
%OSCARHOME%\PERIs10r\grammars\digits.grmxml
- in OSR 3.0.x, RCM sets INET_URL_BASE to:
%OSCARHOME%\PERIs30r\grammars\digits.grmxml

After the OSR 3.0.x installation, the OSR 1.1.x grammars still reside in the directory C:\Program Files\Avaya\PERIs10r (unless they were moved from the default directory).

- If INET_URL_BASE was not set as a User Defined Environment Variable, RCM sets INET_URL_BASE to
%OSCARHOME%\PERIs30r\grammars\digits.grmxml by default.

In this case, move the grammar files from the default OSR 1.1.x location to %OSCARHOME%\PERIs30r\grammars\. In addition, convert, recompile the grammars, and make any other changes required for recognition with OSR 3.0.x.
- If INET_URL_BASE is set as a User Defined Environment Variable, the RCM process does not overwrite that value. In this case, do one of the following:

- Leave the grammar files in the location where the User Defines System Variable `INET_URL_BASE` points. In addition, convert, recompile the grammars, and make any other changes required for recognition with OSR 3.0.x.
- Change the value of User Defines System Variable `INET_URL_BASE` and move the grammar files to that location. In addition, convert, recompile the grammars, and make any other changes required for recognition with OSR 3.0.x.

Licensing

No license was required with OSR 1.1.x. OSR 3.0.x requires a license. Obtain a SpeechWorks OSR 3.0.x license from Avaya, install the license on the Speech Server node and address licensing configuration issues.

Other Upgrade Issues

This section highlights what is new and different when upgrading from OSR 1.1.x to OSR 3.0.x.

Confidence Scores

OSR 3.0.x has an improved scale for confidence scores and uses a different computational method than was used with OSR 1.1.x. These methods generate different confidence scores scales. Refer to the documentation provided by ScanSoft, Inc. for information about the OSR 3.0.x confidence score scale.

In OSR 3.0.x the `confidencelevel` parameter determines when the application needs to confirm a recognized utterance. It is a measure of confidence that the recognizer has matched the correct result.

INET_URL_BASE File Path

When upgrading from OSR 1.1.x to OSR 3.0.x, the file path set for `INET_URL_BASE` after the upgrade depends on whether `INET_URL_BASE` was set as a User Defined System Environment Variable or was set by default by RCM before the upgrade. See [Grammar Files](#).

When updating from OSR 1.1.x to OSR 3.0.x, the OSR 1.1.x grammars need to be converted, recompiled, and redistributed regardless of the method by which `INET_URL_BASE` is set.

Recompile and Redistribute Grammars

After upgrading from OSR 1.1.x to OSR 3.0.x, the grammars created for OSR 1.1.x need to be converted, recompiled, and redistributed across all Speech Server nodes to make them usable. See [Grammar Files](#).

Whenever upgrading from one OSR release to another (minor or major), recompile the grammars with the SpeechWorks Grammar Compiler (sgc) compiler associated with the new release.

SpeechWorks OSR 3.0.x provides a tool named `xml2xml` for the purpose of converting older XML grammars to the new format.

For information about converting and recompiling grammars, refer to the OSR 3.0.x Grammar Developer Guide provided by ScanSoft, Inc.

ECMA-Script Interpreter

The ECMA-script interpreter in OSR 3.0.x is more strict than the OSR 1.1.x interpreter.

For example, OSR 3.0.x does not allow unassigned variables in any statements (other than checking to determine if the variable is assigned). This restriction can result in situations when utterances, which were parsed using OSR 1.1.x grammars, are rejected (because of an ECMA error) when the corresponding grammar is converted using `Xml2xml` and used for recognition.

It is useful to re-test the converted version of the grammars using the Parse Tool. For information about the ECMA-Scripting, refer to the latest publication at the web site <http://www.ecma.ch>.

SpeechWorks Parameter Settings File

The spwx_params.txt file resides on the Speech Server node in the directory C:\Program Files\Avaya\SpeechWorks\PERIs30r\etc. It contains a list of parameters and some features about them. This file is used for validation purposes by the Integration Shared Library.

The required file content changed from OSR 1.1.x to OSR 3.0.x.

- In OSR 3.0.x, the spwx_params.txt file must contain all parameters that need to be set for EP and/or REC and do not begin with swirec_ or swiep_.
- In OSR 1.1.x, the file has to contain a listing for any SpeechWorks parameter before that parameter is set. Only the parameters that are listed in this file can be set.

Only the SpeechWorks parameters that are documented in this publication (which originates from Avaya) are validated. For all parameters that are not documented in the is publication, the application developer (user) must refer to the SpeechWorks OSR 3.0 Reference Manual that originates from ScanSoft, Inc. before using the parameter to determine the appropriate usage.

Baseline.xml File

Do not overwrite the OSR 3.0.x Baseline.xml file with the OSR 1.1.x Baseline.xml because parameters may have been obsoleted, added, or changed in the new release. Refer to the documentation provided by ScanSoft, Inc. for information about moving setting from the OSR 1.1.x Baseline.xml file to the OSR 3.0.x Baseline.xml file.

For additional information about this file refer to the MPS Speech Server 6.5 SpeechWorks OSR 3.0.x Resource Guide.

SWI_vars ECMAScript object

OpenSpeech Recognizer 3.0.x contains a feature to pass the entire SWI_vars ECMAScript object into an imported grammar by specifying the following key setting with a URI.

SWI_vars=SWI_vars

This setting makes all SWI_vars variables available to the imported grammar. The following example demonstrates how to use this feature:

```
<ruleref  
uri=file:///mygrammars/mygram.grxml?SWI_vars=SWI_vars/>
```

(This feature was added to OSR 2.0.6 to ease the migration from OSR 1.1.x, which incorrectly allowed global scope for SWI_vars.)

In general, the use of this feature is not recommended because it may have undesirable side effects. For example, in the case where an imported grammar contains an ECMAScript that tests for undefined variables, this new feature may cause unexpected behavior if the entire SWI_vars object is passed in, as some unexpected variable may have been set previously.

It is best to explicitly pass the variables that the imported grammar needs. The following example, demonstrates how to explicitly pass variables to an imported grammar.

```
<ruleref  
uri=file:///mygrammars/mygram.grxml?SWI_vars.myparam=SWI_vars.myparam/>
```

Obsolete and New Parameters

The following parameters were actually obsoleted/new as of SpeechWorks OSR 2.0.x.

However, if migrating from OSR 1.1.x to OSR 3.0.x, this section applies to the upgrade.

Obsoleted with OSR 2.0.x

- Measurement Logging is obsoleted.

- The following parameters are obsoleted:
swirec_suppress_measurement_logging
DataCaptureSmartRecognizer
DataCaptureTuningTools
- SpeechWorks Registry Keys are no longer used to set parameters. These are now set in the speechworks.cfg file.
- The VXLinet Grammar cache is no longer a directory.

New with OSR 2.0.x

- The speechworks.cfg file is new. It contains the parameters settings that were set with SpeechWorks Registry Keys in OSR 1.1.x.
- The following SpeechWorks parameters are new:
swirec_acoustic_adapt_suppress_adaptation
swiep_use_swiep_read
swirec_audio_media_type
swiep_audio_media_type
confidencelevel
- The following Shared Library parameters are new.
RecognitionMode
XmlFormat
- The use of the Shared Library parameter RejectionThreshold has changed in OSR 2.0.x because of the introduction of a new method for calculating
Confidence Level. Setting the Shared Library parameter
RejectionThreshold sets the OSR parameter confidencelevel.

Upgrade OSR 2.0.x to OSR 3.0.x

When upgrading from SpeechWorks OSR 2.0.x to SpeechWorks OSR 3.0.x, consider the following issues: configuration, grammars, licensing, and other upgrade issues.

Configuration

It is important to address the following issues: directory structure and the system configuration file, Baseline.xml file, and licensing.

Directory Component Structure

SpeechWorks OSR 3.0.x is designed so that resource processing occurs on a Speech Server node configured with a single Speech Server component. The default configuration for SpeechWorks OSR 2.0 resource processing is designed for a single Speech Server component but supports a Speech Server node configured with two components for backward compatibility. The installation process configures a single component for OSR 3.0.x processing on the Speech Server node.

System Configuration File

Site-specific settings can be propagated from the backup copy of the OSR 2.0.x system configuration file (sys-lvr-speechworks.cfg). This file resides in the following directory path.

%Systemdrive%\Avaya\oscarN\etc\

Grammar Files

When upgrading from OSR 2.0.x to OSR 3.0.x, address the format and location of grammar files.

Grammar File Format

When upgrading from one OSR release to another (minor or major), recompile the grammars with the SpeechWorks Grammar Compiler (sgc) compiler associated with the new release, even though the acoustic models may be the same between releases.

SpeechWorks OSR 3.0.x provides a tool named xml2xml for the purpose of converting older XML grammars to the new format.

OSR 3.0.x does not support OSR 2.0.x grammars, unless they are recompiled and redistributed across all Speech Server nodes.

For information about converting and recompiling grammars, refer to the OSR 3.0.x Grammar Developer Guide provided by ScanSoft, Inc.

Grammar File Location

The variable INET_URL_BASE identifies the directory where grammars reside and allows referencing a grammar without specifying an absolute path.

RCM sets INET_URL_BASE as a process-specific variable to a default value, if INET_URL_BASE is not set as a User Defined System Environment Variable when SRP starts on the Speech Server node.

- in OSR 2.0.x, RCM sets INET_URL_BASE to:
%OSCARHOME%\PERIs20r\grammars\digits.grmxml
- in OSR 3.0.x, RCM sets INET_URL_BASE to:
%OSCARHOME%\PERIs30r\grammars\digits.grmxml

After the OSR 3.0.x installation, the OSR 2.0.x grammars still reside in the directory C:\Program Files\Avaya\PERIs20r (unless they were moved from the default directory).

- If INET_URL_BASE was not set as a User Defined Environment Variable, RCM sets INET_URL_BASE to
%OSCARHOME%\PERIs30r\grammars\digits.grmxml by default.
In this case, move the grammar files from the default OSR 2.0.x location to
%OSCARHOME%\PERIs30r\grammars\ and recompile the grammars.
- If INET_URL_BASE is set as a User Defined Environment Variable, the RCM process does not overwrite that value. In this case, do one of the following:
 - Leave the grammar files in the location where the User Defines System Variable INET_URL_BASE points. In addition, convert and recompile the grammars.
 - Change the value of User Defines System Variable INET_URL_BASE and move the grammar files to that location. In addition, convert and recompile the grammars.

Baseline.xml File

Do not overwrite the OSR 3.0.x Baseline.xml file with the OSR 2.0.x Baseline.xml because parameters may have been obsoleted, added, or changed in the new release.

Refer to the documentation provided by ScanSoft, Inc. for information about moving setting from the OSR 2.0.x Baseline.xml file to the OSR 3.0.x Baseline.xml file.

For additional information about this file refer to the MPS Speech Server 6.5 SpeechWorks OSR 3.0.x Resource Guide.

Licensing

Obtain a SpeechWorks OSR 3.0.x license from Avaya, install the license on the Speech Server node and address licensing configuration issues.

Transition from SpeechPearl 8.1 to OSR 3.0.x

This section applies to transitioning from SpeechPearl 8.1 OSR 3.0.x.

ScanSoft provides a Migration Guide for users moving from SpeechPearl 8.x to OSR 3.0. There are significant grammar and application changes required for this migration. The implementation of Robust Parsing functionality is somewhat different in the way values are returned to the application.

Recognition Result

SpeechPearl 8 delivers proprietary results, OSR delivers XML results. The result slot/value pairs provided by OSR are different than those from SpeechPearl. As a result, the application must modify the result folder variables (for an AVS result) to handle the OSR result variables. Depending on integration details, recognition result parsing must be adjusted.

SpeechPearl 8.1 provided for the option of receiving the recognition result in AVS or ACSII format. OSR 3.0.x returns the result in AVS format or in XML. When the result is returned in AVS format, the raw data is saved to a datacard. OSR 3.0.x supports UTF-8 encoded results.

Parameters

SpeechPearl parameters are not supported by OSR. In order to transition from SpeechPearl to OSR, refer to the MPS Speech Server 6.5 SpeechWorks OSR 3.0.x Resource Guide, locate equivalent parameters and use them.

Grammars

SpeechPearl 8 uses PSGF grammars. OSR uses SRGS grammars. All necessary grammars must be transformed into the SRGS/XML grammar format. Refer to the following documents: SpeechWorks SpeechPearl 8 Grammar Guide, SpeechWorks OSR 3.0 Grammar Developer Guide, and the SpeechWorks Supplement, Robust Parsing Grammars for OSR 3.0.

It is recommended to develop new grammars directly in the SRGS format instead of translating SpeechPearl 8 grammars from PSGF to SRGS.

Language and Recognition Resources

The following issues apply to language and recognition resources.

- Language resources must be upgraded from SpeechPearl resource to the appropriate version of OSR language resources.
- Existing user lexica must be converted if they will be used during grammar compilation.
- Existing SpeechPearl 8 language models must be retrained using OSR 3 tools.
- OSR 3 supports the Robust Parsing feature. Refer to the SpeechWorks Supplement, Robust Parsing Grammars for OSR 3.0.

Upgrade SpeechPearl Wordlist Grammars to OSR SRGS

Use the following procedure to upgrade SpeechPearl 8.1 Wordlist type grammars to OSR 3.0.x SRGS grammars.

- Convert SpeechPearl Wordlist type grammars to SRGS. Then, test the grammars using OSR 3.0.x. (Compilation is faster with OSR than SpeechIPearl.)
If this is an acceptable method, use it to convert the grammars.
- Alternatively, if compilation of the converted grammars to SRGS is considered to be too slow, convert the SpeechPearl Wordlist grammar to a OSR 3.0.x Wordlist grammar, then test it using OSR 3.0.x.

Unsupported Features

There is no direct OSR 3.0.x equivalent for the following SpeechPearl 8 features:

- Add Word.
However, to obtain similar functionality, use the OSR Dynamic Link feature.
- Delete Word
- Learn Word.
- Deferred Recognition.

Upgrade from Speechify or RealSpeak 3.5 to RealSpeak 4.5

RealSpeak 4.5 applications implement dictionary usage differently than both Speechify and RealSpeak 3.5. In addition, Speechify and RealSpeak 3.5 user dictionaries must be converted to the RealSpeak 4.5 format before they can be used with the RealSpeak 4.5 resource.

- See [Application Issues](#).
- See [Convert User Dictionaries](#).

For information about RealSpeak 4.5 resource processing, refer to the MPS Speech Server 6.5 SpeechWorks RealSpeak 4.5 Resource Guide.

For information about installing RealSpeak 4.5, refer to the MPS 3.5 Speech Server 6.5 Installation Guide and Release Notes.

Application Issues

Dictionary usage is programmed differently in Speechify, RealSpeak 3.5, and RealSpeak 4.5 applications. The following table identifies the programming methodology for each of these three resources. When programming dictionary usage in the RealSpeak 4.5 application:

- Be aware of the issues involved with User Dictionaries.
- Use the examples in the sample application as a guideline.
- Use the following table to understand the differences in declaring, enabling, and disabling user dictionaries for these three resources.

Dictionary Usage Programming Comparison Table

Resource	Operation	Description
Speechify	declare	Not Applicable. This operation is performed in configuration files (either <code>SWIttsConfig.xml</code> or <code><voice>.xml</code>).
	enable	Not Applicable. When a dictionary is configured, it remains active for the duration of the call.
	disable	Not Applicable. When a dictionary is configured, it remains active for the duration of the call.
RealSpeak 3.5	declare	<ul style="list-style-type: none"> The <code>DictPath</code> parameter specifies the path to the dictionary files. The <code>Dictionary</code> parameter specifies the name of a dictionary. This is set in the <code>sys-extts-realspeak.cfg</code> file.
	enable	The <code>EnableUsrDictionary</code> parameter specifies the name of the dictionary to enable.
	disable	The <code>DisableUsrDictionary</code> parameter specifies the name of the dictionary to disable.
RealSpeak 4.0	declare	Not Applicable. Dictionaries are not declared.
	enable	<ul style="list-style-type: none"> The <code>speechPath</code> parameter specifies the path to the dictionary files. The <code>Dictionary</code> parameter specifies the name of a dictionary. This is set in the <code>sys-extts-realspeak.cfg</code> file. <p>The name of the dictionary is set in the <code>Dictionary</code> datacard. This value is used in the <code>Label</code> that is active during the next speak instance. The dictionary file must be located in the <code>%SpeechPath%</code> directory, which is set in the <code>sys-extts-realspeak.cfg</code> file. The <code>Label</code> must be defined in this file before using the <code>Label</code>.</p>
	disable	The <code>DisableUsrDictionary</code> parameter specifies the name of the dictionary to disable.

Convert User Dictionaries

ScanSoft provides a set of utilities for converting User Dictionary files used with Speechify or RealSpeak 3.5 to User Dictionaries for use with RealSpeak 4.5.

ScanSoft provides a detailed description of what is needed to convert an older version dictionary to a RealSpeak 4.5 dictionary. This documentation resides at the following location on the Speech Server.

%REALSPEAK\doc\RS_Telcom_TTS_main_SDK_V45.pdf

(Appendix C)

Enhancing Pronunciation of Proper Names

The pronunciation of proper names can be enhanced by capitalizing the first letter of each name and by reducing the speed at which text is spoken.

In some cases (for example, pronunciation of proper names), speech output from the RealSpeak 4.5 Text to Speech Engine (TTS) sounds better after reducing the rate at which the engine speaks text.

Avaya recommends reducing the speaking rate for U.S. English voices and considering this change for other languages as well. In all cases, it is the responsibility of the application developer to optimize the TTS engine to the context of their deployment while considering such factors as the speaking rate of pre-recorded prompts.

Avaya determined that the optimal rate for U.S. English is 4 (the default is 5). The value of the Speed parameter determines the rate at which text is spoken. To change the rate at which text is spoken, include the Speed parameter in the label definition for a particular language and voice, set in the sys-extts-realspeak.cfg file.

For example, to set the speaking rate to 4 for the U.S. English Voice Jill, configure the label as follows.

Section Label

Label NORMAL

Language "american english"

Voice jill

Speed 4

*

MPS 2.1 to MPS 3.5 Speech Server Software Upgrade

This section describes how to perform a software upgrade from an MPS 2.1 Speech Server to an MPS 3.5 Speech Server on a Windows Operating System. Perform the following upgrade procedures in the order listed.

Note the type of Speech Engine and follow the upgrade rules provided in the table below to determine the proper replacement, if necessary.

Speech Engine	MPS 2.1 Win 2000	MPS 3.5 Win 2003	Recommended MPS 3.5 Upgrade Paths	Comments
OSR 1.x	Y	N	OSR 3.0	Recompile grammar (no compatibility guarantee).
OSR 2.0	Y	N	OSR 3.0	Grammar recompile required.
OSR 3.0	Y	Y	None	
Speechify 2.1	Y	N	RealSpeak 4.5	Dictionary conversion required.
Speechify 3.0	Y	N	RealSpeak 4.5	Dictionary conversion required.
RealSpeak 3.5	Y	N	RealSpeak 4.5	Dictionary conversion required.
RealSpeak 4.0	Y	N	RealSpeak 4.5	Dictionary conversion required.
Nuance 8.0	Y	N	Nuance 9	Grammar supported, recompile recommended.
Nuance 8.5	Y	N	Nuance 9	Grammar supported, recompile recommended.

Speech Engine	MPS 2.1 Win 2000	MPS 3.5 Win 2003	Recommended MPS 3.5 Upgrade Paths	Comments
Vocalizer 3.0	Y	N	RealSpeak 4.5	Dictionary conversion required.
Verifier 3.0	Y	N	Verifier 4.1	May require application changes.
Verifier 3.5	Y	N	Verifier 4.1	May require application changes
IAS 1.1	Y	Y	None	
Fonix 5.2	Y	N	RealSpeak 4.5	Full conversion required.
SpeechPearl 8.1	Y	N	OSR 3.0	Full conversion required.

Backup the Following Files and Directories

%MPSHOME%\common\etc\vpshosts

%MPSHOME%\common\etc\gen.cfg

%MPSHOME%\oscarN\etc

For Nuance Speech Server backup everything under:

%NUANCE%\packages

%NUANCE%\data

For OSR Speech Server, backup everything under:

%SWISRSDK%\config and

%OSCARHOME%\PERIswwXX0r\grammars.

If VXML is used, backup:

\$MPSHOME/PERIvxml/oscar/speechworks/dynam.grxml from the MPS AP.

For Audio Server Speech Server, backup the plicd and PERIAURO license entries within the plservc file, if it exists.

For OSR Speech Server, backup the license under:

%SWISRSDK%\flexlm\license folder

Any customer defined grammars and dictionaries (for LVR or TTS).

Installation of Speech Server Hard Disk

Before replacing the disk, be sure to record the System Name, LAN IP addresses, and Domain Name configured on the existing hard disk. Windows Speech Servers perform disk mirroring in hardware rather than software through the use of Redundant Array of Independent Disks (RAID). To remove existing primary disk and replace with new disk using RAID, refer to the procedures in Windows System Recovery with the IBM x335 in the MPS 500 Hardware Installation and Maintenance Manual.

Configure the Network

Replace the network settings on the new disk with the settings recorded earlier (System Name, LAN IP addresses, and Domain Name).

Reboot the System

Login as administrator.

Update Configuration Files with Site Specific Information

View the contents of the directories/files mentioned below on the secondary disk to determine if they contain any site specific information. If not, then do not modify the files on the primary disk. If they do, then the information needs to be merged into the files on the primary disk.

%MPSHOME%\common\etc\vpshosts

%MPSHOME%\common\etc\gen.cfg

%MPSHOME%\oscar\N\etc

For Nuance Speech Server:

%NUANCE%\packages

%NUANCE%\data

For OSR Speech Server, manually merge the configuration files from:

%SWISRSdk%\config

Restore license files/folders where appropriate.

Any customer-defined grammars and dictionaries (for LVR and TTS).

Configure Nuance Watcher Tool

If the Nuance Watcher Tool was used under MPS 2.1, reconfigure it under MPS 3.5. For information on configuring the Nuance Watcher Tool refer to the MPS Speech Server 6.5 Nuance 8.x Recognizer Resource Guide.

Recompile Customer-Defined Grammars

If the upgrade requires a change of a vendor or release, replace/recompile customer defined grammars as necessary.

Update Application Site Specific Information

Copy/Merge/Install/Configure any application/site specific data such as MPS Developer applications, Java classes, third party software, users, etc.

Reboot System

Test Upgraded System

Thoroughly test the upgraded system by running the Speech Server Field Factory Test procedure, see [Field Factory Tests](#).

CCTIVR Upgrade

This section describes the procedure and technical aspects of an IPML upgrade. IPML interconnects between an MPS AP and a CCT. This document describes the considerations of the various interfaces.

Nomenclature

The IPML product nomenclature has been rebranded. Also, IPML has transitioned from being part of the MPS IVR portfolio to the CCT portfolio. As part of this consolidation of the Call Center solution, IPML has been renamed to CCTIVR. This renaming of the product also includes changes to the installation media on which the CCTIVR resides. The CCTIVR is now delivered on the CCT media.

CD Software Contents

The following describes the contents of the software distributed for the various versions of IPML and CCTIVR.

IPML 2.1 - This version of IPML is installed using the MPS 2.1 installation media. The core package for IPML is the PERIcti 2.10 package. This package is updated using the MPS patch bundle release which is currently PB09.

CCT 5.0 - CCT 5.0 contains the CCTIVR. The CCTIVR software is contained on the CCT 5.0 installation media. The software which is incorporated into the CCT 5.0 media for the CCTIVR is the MPS 2.1 install packages and includes MPS 2.1 PB09. The PERIcti 2.1 package installs and is updated with PB09 during the install.

CCT 6.5 - CCT 6.5 contains the CCTIVR. The CCTIVR software is contained on the CCT 6.5 installation media. The software which is incorporated into the CCT 6.5 media for the CCTIVR is the MPS 3.5 install packages (SSsuite packages). Included in this distribution is the PERIcti 3.0.0 package. This package contains the same binaries as PERIcti 2.1.0 including the files for PB09. The package version is changed as part of the support for the MSI package format which is used for MPS 3.5.

CCT 6.5 is not currently released. CCT 5.0 contains the current available release of the CCTIVR.

The patches contain files which are identical between the releases.

Supported Operating Systems

IPML 2.1 - This version of IPML was supported on Windows 2000 Advanced Server or Windows 2000 Professional

CCT 5.0 - This version of CCTIVR is supported on Windows 2000 Server or Windows 2003 Server. A system with Windows 2000 Professional or Windows 2000 Advanced Server has also been tested.

CCT6.5 - This version of CCTIVR is supported on Windows 2003 Server. The system to be upgraded must be reviewed to determine if the existing OS is supported. The upgrade being considered should match the target system. In general, upgrading from IPML to CCT 5.0 is not required. Updates to CCTIVR 6.5 require an upgrade.

Installation of CCTIVR Hard Disk

Install new hard disk with pre-installed Operating System and CCTIVR software.

Be sure new hard disk has at least Patch Bundle 9 or later installed. For information on installing patches refer to the document, Installing MPS Software on the Solaris Platform.

Upgrading to CCTIVR 5.0 or CCTIVR 6.5

The upgrade of IPML 2.1 to either CCTIVR 5.0 or CCTIVR 6.5 is identical. The reason for this is that the PERIcti package (used for all releases) is the same, independent of the install media. The configuration files of the installed system are also compatible.

1. Make a backup of the configuration files on the system. This must include all files in \$MPSHOME/css1/etc.
2. Update the software
3. Verify that the configuration files are preserved.

Co-Residency Considerations

The MPS, CCTIVR and CCT support co-residency of the components. When considering a co-resident configuration, all installed components need to be reviewed. In general, MPS 2.1/ IPML 2.1 and CCT 5 have common operating systems. MPS 3.5 and CCT 6.5 also have common operating systems.

PeriProducer/MPS Developer Toolkit Compatibility

The PERIctitk package follows a similar convention for the versions which are released. PERIctitk 2.1.0 is released as part of the MPS 2.1 packages. PERIctitk3.0.0 is released as part of the MPS 3.5 release. These packages are binary compatible with each other. The package version is modified in order to support the MPS 3.5 MSI package formats.

CCT 5.0 and later versions of the CCTIVR support interoperability with a VPS/is. Those upgrading who wish to retain VPS/is application processors, need to upgrade to CCT 5.0. The PERIctitk 2.1 has been updated with files which allow a PeriProducer 2.30 application to communicate with the CCTIVR. This support for VPS/is does not allow mixing of VPS/is and MPS application processors.

Upgrading Legacy IPML 2.0.4, 2.0.5, and CSS

As part of the upgrade of IPML versions 2.0.4, 2.0.5, or any version of CSS, the following needs to be upgraded.

1. OS must be upgraded.
2. If the CSS is delivered on Solaris, this server cannot be upgraded. Contact Avaya to discuss obtaining a Windows server to replace the CSS.
3. Application compatibility is maintained, however, small changes may be required.
4. Configuration files are not compatible between older versions of IPML and CSS and IPML 2.1 and CCTIVR. Use existing documentation during the upgrade. Backup configuration files before removing them. Using the old configuration files as a guide, modify the files using the MPS Configuration tool in MPS Manager.

CCSS 6.3 Solaris 2.8 Upgrade to Solaris 2.10

1. Login as root.
2. Execute the **perirev** command and save the output into a temp file, mark down filename and location for later use.
3. Take down CCSS software by executing the following commands:
 - a. **cd /etc/rc3.d**
 - b. **S50ccss stop**
4. Backup CCSS Active/Standby Server, follow documented backup for CCSS found in the CCSS 6.3 Feature Documentation and MPS SIP 6.3 Features Manual.
5. If mirrored disks are used, ensure they are in sync. If tape is used, perform a tape backup.
6. Prepare to shutdown Server.
 - a. If system has mirrored disks, break mirror.

7. Shutdown down Solaris server.
 - a. Execute **halt / shutdown** scripts.
 - b. Power off the server.
8. Move the server primary boot disk to secondary disk location.

If server already has a disk in the secondary disk location, remove it first and tag properly with system and disk location so it can be reinstalled later.

Also, primary disk is Controller 1 Target 0 (c1t0 device) and is the disk on the left, looking at the front panel of the server. The secondary disk is controller 1 target 1 (c1t1 device) and is the disk on the right while looking at the front panel of the server.
9. Install New Solaris 2.10 disk into primary boot disk location.
10. Reboot system:
 - a. Turn power on.
 - b. Connect a console to the LOM port. At the console window prompt (>), type the following:
 1. #
 2. console
 3. boot -r
 - c. Login as root.
 1. CCSS server will try to start but fail since there in no valid configuration. However, CCSS environment is available.
11. Mount second disk to /mnt
12. Setup networking as required. Copy the following files from the /mnt/etc directory to the /etc directory:
 - a. hosts
 - b. netmasks
 - c. defaultrouter
 - d. hostname.*
 - e. bootptab
 - f. nodename
13. Restore the following files from the original disk placed into second disk position:
 - a. If CCSS is an SS7 server, restore the following files:
 1. Copy /mnt/etc/bootptab to /etc/bootptab.
 2. Copy /mnt/opt/ccss/etc/ss7.conf to
\$CCSSHOME/etc/ss7.conf.
 3. Compare the \$CCSSHOME/bin/ccss_start file with /mnt/opt/ccss/bin/ccss_start file to see if any onsite command line options have been enabled. If there are extra command line options in the secondary disks file then manually add the options to the \$CCSSHOME/bin/ccss_start file and save file. (edit this file with vi editor).
 4. If the system has IUP configured to run, then copy the /mnt/opt/ccss/etc/ccme0.conf file to \$CCSSHOME/etc/ccme0.conf (this configuration file is only used in CCSS 6.3 release for IUP protocol).
 - b. If CCSS is a SIP server, restore the following files:

1. Copy /mnt/etc/bootptab to /etc/bootptab.
2. Copy /mnt/opt/ccss/etc/sip.conf to \$CCSSHOME/etc/sip.conf.
3. Files located in the \$CCSSHOME/bin directory should not be modified for SIP systems. However, some sites may have updated files, manually check these files.
4. Check the sipdefault.properties file in the /mnt/opt/ccss/etc directory against the \$CCSSHOME/etc file. Any changes have to be manually merged. Edit the file with standard vi editor.
5. Check the tpmxxxx.ini file in the /mnt/tftpboot directory against the file in the /tftpboot directory. Any changes have to be manually merged. Edit the file with standard vi editor.
 1. The xxxx in the tpmxxxx.ini filename can be 200, 800, or 1100.
14. Execute the ccssinstall script to make entries for TPM in /etc/bootptab and /etc/hosts. This script also installs and activates bootpd on the server without requiring a reboot.
15. Verify CCSS server is at correct patch level.
 - a. Execute a **perirev** command and check it against the **perirev** that was saved earlier.
 - b. If the new disk has a later patch bundle, then all the latest patches are installed.
 - c. If the new disk has the same patch bundle make sure all the same patches are installed (not just the latest ones), all patches from original **perirev** must be installed in the proper order. Follow standard patch installation procedure.
16. Repeat steps 1-14 for second CCSS server if present
17. System is now ready to startup and verify operation.
 - a. Reset TMS cards with DCC3000 SS7 data link cards
 1. Verify cards reboot and load images.
 - b. Reboot system
 - c. Login as user peri
 1. Verify links come into service using CCSS ui commands.
18. Once system is verified, the secondary disk can stay in place if there was no original second disk. If an original second disk was removed, shut system down, turn off power and restore original second disk. Store original primary disk in case a restore back to Solaris 2.8 is required (back out process of upgrade).

CCSS 6.3 Co-Resident on Solaris 2.8 AP Upgrade to Solaris 2.10

If CCSS is co-resident on the MPS AP then follow the MPS upgrade procedure for the AP. This section is relevant when needing to restore files from the backup or second disk. It is assumed at the start of this procedure that the MPS AP, which CCSS is co-resident on, was backed up and a disk was ordered with all the proper software packages installed, placed into the primary boot position and user is logged in as root.

This procedure picks up with the restoration of original site configuration files.

1. Execute **perirev** and save output to a temp file, mark down filename and location for later use.
2. Restore the following files from the original disk placed into second disk position:
 - a. If not already mounted, Mount second disk to /mnt.
 - b. If CCSS is an SS7, restore the following files:
 1. If bootptab file was not already copied from MPS upgrade, copy /mnt/etc/bootptab to /etc/bootptab.

2. Copy /mnt/opt/ccss/etc/ss7.conf to \$CCSSHOME/etc/ss7.conf.
3. Compare the \$CCSSHOME/bin/ccss_start file with /mnt/opt/ccss/bin/ccss_start file to see if any onsite command line options have been enabled. If there are extra command line options in the secondary disks file then manually add the options to the \$CCSSHOME/bin/ccss_start file and save. (edit this file with vi editor).
4. If the system has IUP configured to run then copy the /mnt/opt/ccss/etc/ccme0.conf file to \$CCSSHOME/etc/ccme0.conf (this configuration file is only used in CCSS 6.3 release for IUP protocol).
- c. If CCSS is a SIP server, restore the following files:
 1. If bootptab file was not already copied from MPS upgrade, copy /mnt/etc/bootptab to /etc/bootptab.
 2. Copy /mnt/opt/ccss/etc/sip.conf to \$CCSSHOME/etc/sip.conf.
 3. Files located in the \$CCSSHOME/bin directory should not be modified for SIP systems. However, some sites may have updated files, manually check these files.
 4. Check the sipdefault.properties file in the /mnt/opt/ccss/etc directory against the \$CCSSHOME/etc file. Any changes have to be manually merged. Edit the file with standard vi editor.
 5. Check the tpmxxx.ini file in the /mnt/tftpboot directory against the file in the /tftpboot directory. Any changes have to be manually merged. Edit the file with standard vi editor.
 2. The xxxx in the tpmxxxx.ini filename can be 200, 800, or 1100.
 6. Manually check the sipdefault.properties file in the /mnt/opt/ccss/bin directory against the \$CCSSHOME/bin files to see if there are any changes.
3. Execute the ccssinstall script to make entries for TPM in /etc/bootptab and /etc/hosts. This script also installs and activates bootpd on the server without requiring a reboot.
4. Verify CCSS server is at correct patch level.
 - a. Execute a **perirev** command and check it against the **perirev** file that was saved earlier.
 - b. If the new disk has a later patch bundle, then all the latest patches are installed.
 - c. If the new disk has the same patch bundle make sure all the same patches are installed (not just the latest ones), all patches from original **perirev** must be installed in the proper order. Follow standard patch installation procedure.
5. Repeat steps 1-3 for second CCSS co-resident server, if present.
6. System is now ready to startup and verify operation. Return to MPS AP upgrade procedure. Once all cards and server is rebooted, verify operation:
 - a. Login as user peri
 1. Verify links come into service using CCSS **ui** commands.
 2. Once system is verified, the secondary disk can stay in place if there was no original second disk. If an original second disk was removed, shut system down, turn off power and restore original second disk. Store original primary disk in case a restore back to Solaris 2.8 is required (back out process of upgrade).

CCSS 6.3 SIP Server Upgrade to Windows 2003 Server

The following procedure is only applicable on a Windows CCSS Server.

1. In a command window, execute perirev and save to a temp file, mark down the filename and location for later use.

2. Make backup of primary boot disk, follow standard backup procedures in CCSS 6.3 SIP User Guide.
3. Bring down the software by Start -> Settings -> Control Panel -> Administrative Tools -> Services. Right click Avaya Networks MPS Manager then select Stop.
4. Move the primary disk to the secondary.
5. Insert new disc with Windows 2003 and CCSS SIP 6.3 to the primary boot position.
6. Reboot the system and log in as peri.
7. Restore the following files from the original disk placed into the secondary disk position. Assuming the secondary disk is on S: (if not S: modify steps accordingly to proper disk).
 - a. If the S:\WINNT\system32\drivers\etc\bootptab has entries, then copy it to C:\WINNT\system32\drivers\etc.
 - b. Copy S:\Program Files\Avaya\SSsuite\ccss1\etc\sip.conf to C:\Program Files\Avaya\SSsuite\ccss1\etc.
 - c. Check the sipdefault.properties file in the S:\Program Files\Avaya\SSsuite\ccss1\etc\ directory against the C:\Program Files\Avaya\SSsuite\ccss1\etc file. Any changes have to be manually merged. Edit the file with notepad or wordpad editor.
 - d. Check the tpmxxxx.ini file in the S:\tftpboot directory against the file in the C:\tftpboot directory. Any changes have to be manually merged. Edit the file with standard notepad or wordpad editor.
 1. The xxxx in the tpmxxxx.ini filename can be 200, 800, or 1100.
8. Verify CCSS server is at correct patch level.
 - a. Execute a **perirev** command and check it against the **perirev** file that was saved earlier.
 - b. If the new disk has a later patch bundle, then all the latest patches are installed.
 - c. If the new disk has the same patch bundle make sure all the same patches are installed (not just the latest ones), all patches from original **perirev** must be installed in the proper order. Follow standard patch installation procedure.
9. System is now ready to startup and verify operation. Restart the system by Start -> Shut Down -> Restart.
10. Reset the TMS cards on the MPS system and verify the cards reboot and load the images.
11. On the Windows CCSS 2000 system, verify the CCSS server is up and running connected to the TPM cards, tms/sipproxy using SIP **ui** commands.
12. Once system is verified, the secondary disk can stay in place if there was no original second disk. If an original second disk was removed, shut system down, turn off power and restore original second disk. Store original primary disk in case a restore back to Windows 2000 is required (back out process of upgrade).

CCSS 6.3 SIP Server Upgrade to Windows 2003 Server

The following procedure is only applicable on a Windows CCSS Server.

1. In a command window, execute perirev and save to a temp file, mark down the filename and location for later use.
2. Make backup of primary boot disk, follow standard backup procedures in CCSS 6.3 SIP User Guide.
3. Bring down the software by Start -> Settings -> Control Panel -> Administrative Tools -> Services. Right click Avaya Networks MPS Manager then select Stop.
4. Move the primary disk to the secondary.

5. Insert new disc with Windows 2003 and CCSS SIP 6.3 to the primary boot position.
6. Reboot the system and log in as peri.
7. Restore the following files from the original disk placed into the secondary disk position. Assuming the secondary disk is on S: (if not S: modify steps accordingly to proper disk).
 - a. If the S:\WINNT\system32\drivers\etc\bootptab has entries, then copy it to C:\WINNT\system32\drivers\etc.
 - b. Copy S:\Program Files\Avaya\SSsuite\ccss1\etc\sip.conf to C:\Program Files\Avaya\SSsuite\ccss1\etc.
 - c. Check the sipdefault.properties file in the S:\Program Files\Avaya\SSsuite\ccss1\etc\ directory against the C:\Program Files\Avaya\SSsuite\ccss1\etc file.
Any changes have to be manually merged. Edit the file with notepad or wordpad editor.
 - d. Check the tpmxxxx.ini file in the S:\tftpboot directory against the file in the C:\tftpboot directory. Any changes have to be manually merged. Edit the file with standard notepad or wordpad editor.
 1. The xxxx in the tpmxxxx.ini filename can be 200, 800, or 1100.
8. Verify CCSS server is at correct patch level.
 - a. Execute a perirev command and check it against the **perirev** file that was saved earlier.
 - b. If the new disk has a later patch bundle, then all the latest patches are installed.
 - c. If the new disk has the same patch bundle make sure all the same patches are installed (not just the latest ones), all patches from original perirev must be installed in the proper order. Follow standard patch installation procedure.
9. System is now ready to startup and verify operation. Restart the system by Start -> Shut Down -> Restart.
10. Reset the TMS cards on the MPS system and verify the cards reboot and load the images.
11. On the Windows CCSS 2000 system, verify the CCSS server is up and running connected to the TPM cards, tms/sipproxy using SIP **ui** commands.
12. Once system is verified, the secondary disk can stay in place if there was no original second disk. If an original second disk was removed, shut system down, turn off power and restore original second disk. Store original primary disk in case a restore back to Windows 2000 is required (back out process of upgrade).

CCSS 6.3 SIP Co-Resident Upgrade to Windows 2003 Server

The following procedure is only applicable on a Windows MPS Application Processor (AP).

If CCSS is co-resident on an MPS AP then follow the MPS upgrade procedure for the AP. This section is relevant when needing to restore files from the backup or second disk. It is assumed at the start of this procedure that the MPS AP, which CCSS is co-resident on, was backed up and a disk was ordered with all the proper software packages installed, placed into the primary boot position and user is logged in as root.

This procedure picks up with the restoration of original site configuration files.

1. In a command window, execute perirev and save into a temp file, mark down the filename and location for later use.
2. Restore the following files from the original disk placed into the secondary disk position. Assuming the secondary disk is on S: (if not S: modify steps accordingly to proper disk).

- a. If the S:\WINNT\system32\drivers\etc\bootptab has entries, then copy it to C:\WINNT\system32\drivers\etc\bootptab.
 - b. Copy S:\Program Files\Avaya\SSsuite\ccss1\etc\sip.conf to C:\Program Files\Avaya\SSsuite\ccss1\etc\sip.conf.
 - c. Check the sipdefault.properties file in the S:\Program Files\Avaya\SSsuite\ccss1\etc\ directory against the C:\Program Files\Avaya\SSsuite\ccss1\etc file.
Any changes have to be manually merged. Edit the file with notepad or wordpad editor.
 - d. Check the tpmxxxx.ini file in the S:\tftpboot directory against the file in the C:\tftpboot directory. Any changes have to be manually merged. Edit the file with standard notepad or wordpad editor.
 1. The xxxx in the tpmxxxx.ini filename can be 200, 800, or 1100.
3. Verify CCSS server is at correct patch level.
 - a. Execute a **perirev** command and check it against the **perirev** file that was saved earlier.
 - b. If the new disk has a later patch bundle, then all the latest patches are installed.
 - c. If the new disk has the same patch bundle make sure all the same patches are installed (not just the latest ones), all patches from original perirev must be installed in the proper order. Follow standard patch installation procedure.
 4. System is now ready to startup and verify operation. Return to MPS AP upgrade procedure. Once all cards and server is rebooted, verify operation:
 - a. Login as user peri
 - b. Verify the CCSS server is up and running connected to the TPM cards, tms/sipprox using SIP ui commands.
 - c. Once system is verified, the secondary disk can stay in place if there was no original second disk. If an original second disk was removed, shut system down, turn off power and restore original second disk. Store original primary disk in case a restore back to Windows 2000 is required (back out process of upgrade).

MPS Servers Redundant Ethernet Configuration

Configure all the MPS Servers (Primary/Secondary Application Processors, Speech Servers, Optional Servers) to support Redundant Ethernet capability according to the section, Configuring Redundant Ethernet in either the MPS 500 Hardware Installation and Maintenance Manual or the MPS 1000 Hardware Installation and Maintenance Manual.

Perform the configuration procedure(s) for the relevant MPS Server(s). Installation of the Dual Ethernet Driver software on Windows Servers was already performed on the new hard disk.

MPS 2.1 to MPS 3.5 Hardware Upgrade

The following hardware upgrade sections indicate IP addresses in procedures, configuration files, and diagrams. These IP addresses are for illustrative purposes only. Customer site specific IP addresses must be substituted in these instances.

Hardware Upgrade Prerequisites

All boards (TMS (MPS 500 or 1000), DCC 3000 (with or without EC), and NIC) are flashed to their latest ROM image. If these boards are at the minimum revision levels shown below, then no ROM updates are necessary.

Board	Revision Level
TMS 2500a (NTV60011)	J
TMS 2500b (MPS 500 or 1000) (NTV60105, NTV60106)	E
DCC 3000 (with or without EC) (NTV60321, NTV60322)	G
NIC 2000 (NTV15581)	R

There are two versions of the TMS board:

- Board number 5036484 indicates a TMS 2500a board.
- Board number 9943420 (MPS 1000) or 5232930 (MPS 500) indicates a TMS 2500b board.

To determine the current revision level of the boards perform one of the following procedures below:

1. DLT Utility
 - a. On the command line, execute **dlt** to enter the dlt command line prompt.
 - b. From the dlt command line prompt, enter **devlist** to display a list of devices on the current component (TMS). Check the card revision information as shown in the [sample devlist output](#). The letter after the board number indicates the revision level.

Description of fields for the [sample devlist output](#)

For a TMS	
Status	Returns the status of the devlist command. (0=Ok)
Chassis Number	Chassis number of the TMS.
Slot Number	Chassis slot number of the TMS.

Description of fields for the [sample devlist output](#)

For a Device List	
DevNum	Device number.
DevType	Number indicating type of device. Hardware devices are as follows
	0 = UnDefDevType 1 = TMSCardType 2 = TMSDevType 3 = PBCDevType 4 = PCMHWDDevType 5 = PCMinCCDevType 6 = CODECDevType 7 = SCSIDevType 8 = PDRAMDevType 9 = CPMEMDevType 10 = EEPROMDevType 11 = PCMOutCC 12 = PLLCardType 13 = PLLDevType 14 = PLLCIRCDDevType 15 = MVIPDevType 16 = MDMCardType 17 = DSPDevType 18 = SCSICardType 19 = ALICardType 20 = DCCCardType 21 = SPANDevType 22 = ATXIOCardType 23 = VOIPDevType 24 = STRMDevType
State	Current state of device.
ClassName	Class name of resource currently loaded.
ClassId	Class identifier used by system.
NumRsrc	Number of instances of this resource currently loaded.
StartInst	Starting instance of this resource.

Sample devlist Output

Sample **devlist** Output

> dlt

dlt#mps.3,vos/mpsap3 {1} -> devlist

dlt#mps.3,vos/mpsap3 {2} ->

Status: 0

Chasis Number: 1

Slot Number: 2

Number of Devices: 10

Slot Number: 0

Card Number: 0

Card Type: 12

Serial Number: 10699

Manufacture Date: 03/22/2001

Card Revision: 503648401E_

Revision Date: 03/22/2001

Number of Devs: 11

Package Time Segs: 0

DevNum	DevType	State	ClassName	ClassId	NumRsrc	StartInst
0	1	1		0x00000	0	0
1	0	0		0x00000	0	0
2	4	1		0x00003	256	256
3	5	1		0x00004	128	0
4	0	0		0x00000	0	0
5	0	0		0x00000	0	0
6	0	0		0x00000	0	0
7	0	0		0x00000	0	0
8	0	0		0x00000	0	0
9	11	1		0x00005	128	0
10	0	0		0x00000	0	0

.
.
.

Sample devlist Output

```
> dlt
```

```
dlt#mps.3,vos/mpsap3 {1} -> devlist
```

```
dlt#mps.3,vos/mpsap3 {2} ->
```

```
Status: 0
```

```
Chasis Number: 1
```

```
Slot Number: 2
```

```
Number of Devices: 10
```

```
Slot Number: 0
```

```
Card Number: 0
```

```
Card Type: 12
```

```
Serial Number: 10699
```

```
Manufacture Date: 03/22/2001
```

```
Card Revision: 503648401E_
```

```
Revision Date: 03/22/2001
```

```
Number of Devs: 11
```

```
Package Time Segs: 0
```

DevNum	DevType	State	ClassName	ClassId	NumRsrc	StartInst
0	1	1		0x00000	0	0
1	0	0		0x00000	0	0
2	4	1		0x00003	256	256
3	5	1		0x00004	128	0
4	0	0		0x00000	0	0
5	0	0		0x00000	0	0
6	0	0		0x00000	0	0
7	0	0		0x00000	0	0
8	0	0		0x00000	0	0
9	11	1		0x00005	128	0
10	0	0		0x00000	0	0

```
.  
.   
.
```

2. Console Connection

- Attach a console to the TMS board.
- Boot the TMS. Check the card revision information on the boot screen, as shown in the example below. The letter after the board number indicates the revision level.

Sample TMS Boot Screen

Card Revision	Slot	Card	Type
503648401E_	0	0	TMS-2500_SCSI
503648401E_	0	1	MDM/TMS-2500
503647402D_	1	0	DCC-3000
503647402D_	1	1	DCC-3000-STREAM
503643701H_.503648101B_	2	0	DCC/CTPM/TPM-200
503643401G_	3	0	MDM-1254
503643401G_	3	1	MDM-1254
503647401D_.503643601B_	4	0	DCC-3000-T1
503647401D_.503643601B_	4	1	DCC-3000-STREAM

NIC

===

Detecting Local Cards:

Card Revision	Card	Type
503639901J_	0	NIC-2000
503644701C_	1	NIC-ETHMEZ

Detecting Other Cards in Chassis:

Card Revision	BPS	Type
503648401F_	1	TMS-2500_SCSI
503648401E_	2	TMS-2500_SCSI

To determine the current ROM image revision level of the boards:

1. Attach a console to one of the boards (TMS, DCC, or NIC).
2. Boot the device. If the banner displays Release ROM-4-4, then the board was upgraded and no ROM update is required.

Sample Banner from TMS (DCC and NIC cards show similar information)

```
TMS-2X00_ Rom Version V3.0, Checksum = 0x03e95132
tms_rom.elf, Release ROM-4-4 [05/06/05 05:24:16 PM]
Copyright (c) 2005, Nortel Networks Limited. All rights reserved
```

3. Attach console to a different board and repeat step 2 until all boards have been checked.

Any boards not meeting these requirements (minimum board or ROM image revision level) must be re-flashed according to the ROM update procedure for that specific board (see [Flash ROM Pre-Upgrade Procedures](#)).

"Hero" kits should be available on site whenever a ROM upgrade is to be performed. These kits are a contingency measure in case an error is experienced during the upgrade process.

Flash ROM Pre-Upgrade Procedures

Solaris Server Preparation

1. Login as root on application/boot server.
2. **cd /tftpboot**
3. Acquire the patch file, patch_ROM-4-4.tar.Z from the following location:
 - a. Go to <http://www.avaya.com/espl>.
 - b. Login with User ID and Password.
 - c. On the Enterprise Solutions PEP Library (ESPL) login page, select Click Here.
 - d. Below MultiMedia PEP Tools and to the right of MultiMedia PEP Search, select Click Here.
 - e. From the Product pulldown menu, select MPS, then select Search.
 - f. Click on the link, MPS3.0SolPVlandROM
 - g. Download the patch_ROM-4-4.tar.tgz file.
 - h. Rename the file to patch_ROM-4-4.tar.Z
4. Copy the patch file to the /tftpboot directory of the application server.
Be sure to use the **sum** command located in **/usr/ucb** in the following step.
5. **/usr/ucb/sum** patch_ROM-4-4.tar.Z
6. Must see "17796 4062" to continue. Any other result means the patch file is corrupt and the patch MUST be re-acquired.
7. **uncompress** patch_ROM-4-4.tar.Z
8. **tar xvf** patch_ROM-4-4.tar
9. The bootptab file is /etc/bootptab.
10. Continue with the TMS, DCC, and NIC upgrade procedures below.

Windows Server Preparation

1. Login as administrator on application/boot server.
2. Acquire the patch file, patch_ROM-4-4.exe from the following location:
 - a. Go to <http://www.avaya.com/espl>.
 - b. Login with User ID and Password.
 - c. On the Enterprise Solutions PEP Library (ESPL) login page, select Click Here.
 - d. Below MultiMedia PEP Tools and to the right of MultiMedia PEP Search, select Click Here.
 - e. From the Product pulldown menu, select MPS, then select Search.
 - f. Click on the link, mps3.0WinPVlandROM
 - g. Download the patch_ROM-4-4.exe file.
3. Execute patch_ROM-4-4.exe and select the default "unzip to folder" of %MPSHOME%\PERItms\images
4. The bootptab file is \windows\system32\drivers\etc\bootptab.
5. Continue with the TMS, DCC, and NIC upgrade procedures below.

Modify the bootptab file to get TMS to load the file tms_flash.smod. See **bolded** change in sample bootptab file below.

```
tms2:sm=255.255.0.0:td=/tftpboot:hd=:bf=tms_flash.smod:ht=ethernet
:ha=008001800348:ip=10.7.200.51:
```

Install the TMS Flash ROM Programming Tool (NTV16367) on J6.

The alternate jumper plug method is not recommended for field use because incorrect jumper placement can damage the TMS.

This is not recommended for field use because incorrect jumper placement can damage the TMS. This alternative is only presented due to potential supply problems with the programming tool.



The following Flash ROM upgrade procedures are run on cards independent of their revision. If the card is current (previous revision level from those shown in the table under [Hardware Upgrade Prerequisites](#)), the

I2C is updated to the new revision. If the card is older, then the ROM is flashed but the I2C is not updated and a warning to this effect is generated. The cards revision remains the same even though the ROM was updated. In general, except for the ROM, the card is considered the original revision. The next time the card is sent to a repair depot it is updated to the latest revision.

Interruptions to the flash process can render a card unusable and require shipment to a repair depot to restore functionality. It is highly recommended that no flash operations are attempted without sufficient spare cards available (part of "Hero" kit) on site.

TMS-2500a ROM Upgrade Procedure

1. Attach console to TMS card. This may require connection through a NIC, if present.
2. Boot TMS card.
3. When the root menu is displayed select 17 (Script) and 2 (Get).
4. Execute the script named `tms_flash_2500_J`
5. Script begins flashing the ROM.
6. If any errors are encountered a diagnostic message is printed.
7. If the TMS is at revision "H" the script updates the I2C to "J", otherwise a warning is printed. For details on the I2C revision update see.
8. TMS is updated.
9. To flash any attached DCC cards, go to step 3 of either [DCC-3000 \(without SS7\) ROM Upgrade Procedure](#) or [DCC-3000 \(with SS7\) ROM Upgrade Procedure](#).
10. Reboot TMS.

TMS-2500b ROM Upgrade Procedure

1. Attach console to TMS card. This may require connection through a NIC, if present.
2. Boot TMS card.
3. When the root menu is displayed select 17 (Script) and 2 (Get).
4. Execute the script named `tms_flash_D`
5. Script begins flashing the ROM.
6. If any errors are encountered a diagnostic message is printed.
7. If the TMS is at revision "C" the script updates the I2C to "D", otherwise a warning is printed. For details on the I2C revision update see the section [Flash ROM Upgrade Considerations](#).
8. TMS is updated.
9. To flash any attached DCC cards, go to step 3 of either [DCC-3000 \(without SS7\) ROM Upgrade Procedure](#) or [DCC-3000 \(with SS7\) ROM Upgrade Procedure](#).
10. Reboot TMS.

DCC-3000 (without SS7) ROM Upgrade Procedure

Do NOT perform this procedure on a DCC-2000.

The DCC-3000 must be revision D or newer to support this upgrade. If the card is not revision D or newer it MUST be swapped and sent back for a factory upgrade.

1. Attach console to TMS card. This may require connection through a NIC, if present.

2. Boot TMS card.
3. When the root menu is displayed select 17 (Script) and 2 (Get).
4. Execute the script named dcc3k_flash_G
5. Enter the slot number of the DCC card, when prompted. The slot number (typically 2 or 4) is located on the front of the TMS chassis.
6. Script begins flashing the ROM.
7. If any errors are encountered a diagnostic message is printed.
8. If the DCC-3000 is at revision "F" the script updates the I2C to "G", otherwise a warning is printed. For details on the I2C revision update see the section [Flash ROM Upgrade Considerations](#).
9. DCC-3000 is updated.
The Software Watchdog Timer (SWT) reset function may be activated by the ROM update; it must be turned off for correct operation.
10. Attach console to DCC-3000.
11. Power cycle the TMS.
12. Access the ROM banner and verify the Software Watchdog Timer is turned off:

```
SOFTWARE WATCH DOG TIMER STATUS:  
The watch dog timer is DISABLED and will NOT timeout.
```

13. If the timer is not off then modify the HARDWARE PARAMETERS to turn it off.

```
HARDWARE PARAMETERS:  
Do you want to change the board's Ethernet address? [N]  
Do you want to change the SWT status? [N] y  
Enable Watchdog timer? [N] n  
Number of periods till reset (0-7) ? [7]  
ROM BOOTLOADER PARAMETERS:
```

14. To flash additional DCC cards on this TMS, re-attach console to TMS and go to step 2.
15. Reboot TMS.

DCC-3000 (with SS7) ROM Upgrade Procedure

Do NOT perform this procedure on a DCC-2000.

The DCC-3000 must be revision D or newer to support this upgrade. If the card is not revision D or newer it MUST be swapped and sent back for a factory upgrade.

1. Attach console to DCC-3000 card. This may require connection through a NIC, if present.
2. Boot TMS card.
3. Change the TMS present and load mode select option under NETWORK INTERFACE PARAMETERS to option 2, TMS is present and you'd like to use the MXD to get the image.

```
NETWORK INTERFACE PARAMETERS:
TMS present and load mode select:
  Enter 0 if TMS absent
  Enter 1 if TMS present and you'd like to TFTP the image
  Enter 2 if TMS is present and you'd like to use the MXD
to get the image
: [0] 2
```

4. Attach console to TMS card and reboot TMS.
5. When the root menu is displayed select 17 (Script) and 2 (Get).
6. Execute the script named dcc3k_flash_G
7. Enter the slot number of the DCC card, when prompted. The slot number (typically 2 or 4) is located on the front of the TMS chassis.
8. Script begins flashing the ROM.
9. If any errors are encountered a diagnostic message is printed.
10. If the DCC-3000 is at revision "F" the script updates the I2C to "G", otherwise a warning is printed. For details on the I2C revision update see the section [Flash ROM Upgrade Considerations](#).
11. DCC-3000 is updated.
12. Attach console to DCC-3000.
13. Power cycle the TMS.
14. Change the TMS present and load mode select option under NETWORK INTERFACE PARAMETERS to option 0, TMS is absent.

```
NETWORK INTERFACE PARAMETERS:
TMS present and load mode select:
  Enter 0 if TMS absent
  Enter 1 if TMS present and you'd like to TFTP the image
  Enter 2 if TMS is present and you'd like to use the MXD
to get the image
: [0] 0
```

15. Access the ROM banner and verify the Software Watchdog Timer is turned on:

```
SOFTWARE WATCH DOG TIMER STATUS:
The watch dog timer is ENABLED and will timeout / RESET in
120 seconds.
```

16. If the timer is not on then modify the HARDWARE PARAMETERS to turn it on.

```
HARDWARE PARAMETERS:
Do you want to change the board's Ethernet address? [N]
Do you want to change the SWT status? [N] y
Enable Watchdog timer? [N] y
Number of periods till reset (0-7) ? [7] 7
ROM BOOTLOADER PARAMETERS:
```

17. To flash additional DCC cards on this TMS, re-attach console to TMS and go to step 3.
18. Reboot TMS.

NIC-2000 ROM Upgrade Procedure

1. Modify the bootptab file to get NIC to load the file nic_flash.smod.
2. See **bolded** change in sample bootptab file below.

Sample bootptab file

```
nic1:td=/tftpboot:hd=/:bf=nic_flash.smod:ht=ethernet:ha=008001b00229:ip=10.7.200.52:sm=255.255.0.0:
nic2:td=/tftpboot:hd=/:bf=nic_flash.smod:ht=ethernet:ha=008001b0020f:ip=10.7.200.53:sm=255.255.0.0:
```

3. Attach console to NIC card.
4. Boot NIC card.
5. When the root menu is displayed select 13 (Script) and 2 (Get).
6. Execute the script named nic_flash_R.
7. Script begins flashing the ROM.
8. If any errors are encountered a diagnostic message is printed.
9. If the NIC is at revision "P" the script updates the I2C to "R", otherwise a warning is printed. For details on the I2C revision update see the section [Flash ROM Upgrade Considerations](#).
10. NIC is updated.

Flash ROM Post-Upgrade Procedures

1. Remove the Flash ROM programming tool or alternative jumper plug (if used) from J6 (see [Flash ROM Programming Tool](#)).
2. Modify bootptab file to get TMS to load tms_860.smod and NIC to load nic_860.smod.

Sample bootptab file

```
tms2:sm=255.255.0.0:td=/tftpboot:hd=/:bf=tms_860.smod:ht=ethernet:ha=008001800348:ip=10.7.200.51:
nic1:td=/tftpboot:hd=/:bf=nic_860.smod:ht=ethernet:ha=008001b00229:ip=10.7.200.52:sm=255.255.0.0:
```

IPMP Redundancy on TMS/DCC/NIC

Add the following entries in bold to the bootptab file to enable redundancy on the TMS/DCC/NIC cards. Reboot the TMS after making the changes.

Sample bootptab file

```
tms2:sm=255.255.0.0:td=/tftpboot:hd=/:bf=tms_860.smod:
T130="IPMP":ht=ethernet:ha=008001800348:ip=10.7.200.51:
dcc2:sm=255.255.0.0:ht=ethernet:T130="IPMP":ha=008001D008D1:ip=10.7.200.60:
nic1:td=/tftpboot:hd=/:bf=nic_860.smod:ht=ethernet:ha=008001b00229:T130="IPMP":ip=10.7.200.52:sm=255.255.0.0:
```

TMS/DCC/NIC Upgrade Test

Check that the TMS/DCC/NIC firmware upgrades were successful by performing the following tests.

For the following tests, execute a continual ping command by using the **ping -s** option on a Solaris AP or the **ping -t** option on a Windows AP.

TMS:

1. From the MPS AP ping the TMS.
2. Move Ethernet cable attached to LAN A to LAN B. LAN A and LAN B are located on the back of the VRC chassis on an MPS 1000 and on the rear panel on an MPS 500.
3. Ping response should indicate TMS is alive.

DCC:

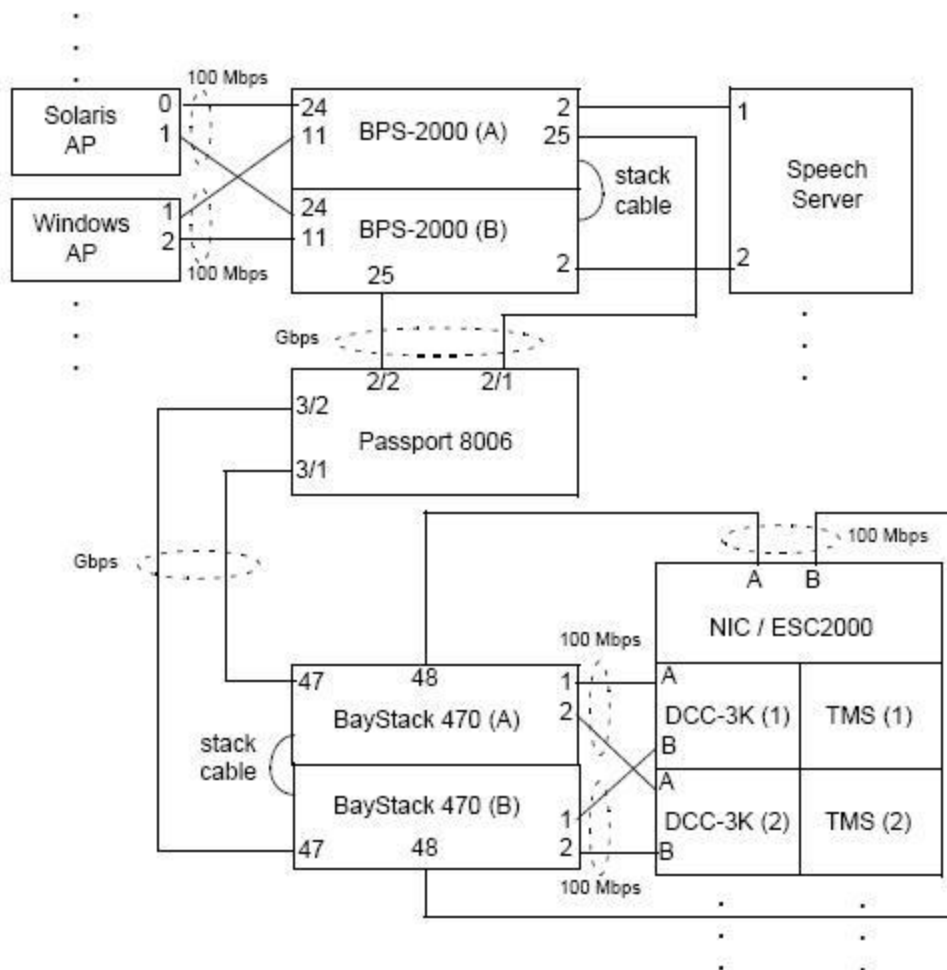
1. From the MPS AP ping the DCC.
2. Move Ethernet cable attached to LAN A to LAN B on the DCC panel.
3. Ping response should indicate DCC is alive.

NIC (MPS 1000 only):

1. From the MPS AP ping the NIC.
2. Move Ethernet cable attached to one NIC over to the other NIC in the same VRC chassis.
3. Ping response should indicate NIC is alive.

Testing Ethernet Redundancy Upgrade

Using the diagram shown below, perform the following test scenario to check if Ethernet Redundancy is working properly.



Test Scenario

Start the applicable Field Factory Test (FFT) for the platform, see [Field Factory Tests](#). Once the FFT is running, disconnect one of the cables listed below, check the status of the system (see [Test Result Analysis](#)), then reconnect the cable.

Proceed one cable at a time doing the disconnect/reconnect for all Redundant Ethernet connections.

Make sure both cables from the same device are not disconnected at the same time.

Disconnect/Reconnect Redundant Ethernet Cables

1. Port 0 on Solaris AP.
2. Port 1 on Solaris AP.

If there are multiple Solaris APs, repeat cable tests 1 and 2 for the remaining Solaris APs.

3. Port 1 on Windows AP.
4. Port 2 on Windows AP.

If there are multiple Windows APs, repeat cable tests 3 and 4 for the remaining Windows APs.

5. Port 25 on BPS-2000 (A).
6. Port 25 on BPS-2000 (B).

7. Port 2 of slot 3 on Ethernet Routing Switch 8600.
8. Port 1 of slot 3 on Ethernet Routing Switch 8600.
9. Port 24 or 48 from Ethernet Switch 470 switch (A).
10. Port 24 or 48 from Ethernet Switch 470 switch (B).
11. Port A from DCC-3000 (1).
12. Port B from DCC-3000 (1).
13. Port A from DCC-3000 (2).
14. Port B from DCC-3000 (2).

If there are more than two TMS/DCC-3000 cards, repeat cable tests 11 and 12 for the remaining DCC-3000 cards.

15. Port 1 on Speech Server
16. Port 2 on Speech Server

If there are multiple Speech Servers, repeat cable tests 15 and 16 for the remaining Speech Servers.

17. Remove power cord from BPS-2000 (A) switch, wait 5 seconds, then reconnect power cord.
18. Once power is returned to BPS-2000 (A) switch, wait 2 minutes, then remove power cord from BPS-2000 (B) switch. Wait 5 seconds, then reconnect power cord.
19. Remove power cord from Ethernet Switch 470 (A) switch, wait 5 seconds, then reconnect power cord.
20. Once power is returned to Ethernet Switch 470 (A), wait 2 minutes, then remove power cord from Ethernet Switch 470 (B) switch. Wait 5 seconds, then reconnect power cord.

Test Result Analysis

A successful test results in the system not crashing or losing digits and remaining stable. There should not be any failures in an application except when data is transmitted via UDP messaging. When testing TTS and Speech Recognition, it is expected that some recognition will fail and TTS speech could drop out as the UDP packets sent from DCC to Server are missed during disconnect and not resent. Use of Audio Server to play and record shows similar results with temporary drop outs in play or record from the Audio Server. After LAN failover is complete, the test starts to pass again and there should be no drop outs in either recordings or plays.

Completing The Upgrade Process

Verifying the Completed Upgrade

To verify the successful upgrade of MPS 2.1 to MPS 3.5 perform the Field Factory Test(s) (FFT). The FFTs are included on the hard disk that is part of the MPS 2.1 to MPS 3.5 Application Server Software Upgrade Kit.

Field Factory Tests

FFTs for specific platforms and hardware configurations are located in \$MPSHOME/PERIfft/fftests. The FFT scripts can be found in the following locations.

Field Factory Test	Supported Platform
<code>\$MPSHOME/PERIfft/fftests/oscar6</code>	Speech Server
<code>\$MPSHOME/PERIfft/fftests/mps3/mps500/eltest</code> <code>\$MPSHOME/PERIfft/fftests/mps3/mps500/tltest</code> <code>\$MPSHOME/PERIfft/fftests/mps3/mps500/tpm</code>	MPS 500
<code>\$MPSHOME/PERIfft/fftests/mps3/mps1000/eltest</code> <code>\$MPSHOME/PERIfft/fftests/mps3/mps1000/tltest</code> <code>\$MPSHOME/PERIfft/fftests/mps3/mps1000/tpm</code>	MPS 1000

Field Factory Test Documentation

To determine which test(s) to use, refer to the table below for the documentation specific to the platform and hardware configuration. The documentation is located in `$MPSHOME/PERIfft/fftests/docs`.

Document	Description
<code>0136681_oscar6_fft.pdf</code>	Speech Server FFT
<code>0136685-mps500-fft.pdf</code>	MPS 500 FFT (Basic Platform Test)
<code>0136686-mps500-tpm-fft.pdf</code>	MPS 500 FFT with TPM hardware (TPM 200, 800, and 1100) ¹
<code>0136687-mps1000-fft.pdf</code>	MPS 1000 FFT (Basic Platform Test)
<code>0136688-mps1000-tpm-fft.pdf</code>	MPS 1000 FFT with TPM hardware (TPM 200, 800, and 1100) ¹

1. Dependent on the platform configuration. Only perform the TPM FFT procedure after the Basic Platform Test is completed.

Accessing FFT Documentation from a Sun Console

1. Redirect the display on the MPS AP to the Sun test console.
setenv DISPLAY <nodename or IP address>:0
2. Start Acrobat Reader in the background.
acroread &
3. Navigate to `$MPSHOME/PERIfft/fftests/docs` and open the appropriate FFT document.

Accessing FFT Documentation from a PC

The PC must be on the same network as the MPS AP.

4. Using Exceed connect to the MPS AP and redirect the display to the PC:
setenv DISPLAY <PC IP address>:0
5. FTP over to the MPS AP and execute the following commands to copy FFT documents to the PC.

Occasionally, the FFT documents get patched (updated) similar to other parts of the FFT package. Over time, the local copies stored on the PC become outdated. Always check for a newer version of documents as PERIfft is patched.

- a. **cd** `$MPSHOME/PERIfft/fftests/docs`

- b. **bin** (for binary transfer)
- c. **get** <document_filename.pdf> or **mget** 0136*
- d. Use Acrobat Reader on the PC to open FFT documents.

After The Upgrade

After performing all the required upgrade procedures and successfully testing the system using Field Factory Tests and live call testing there are additional procedures which may be necessary depending on site specific requirements. The table below lists procedures which are either recommended or optional, these are indicated in the first column by either an "R" or an "O". All reference documentation listed is available on the Avaya Web site. For additional information, see [Getting Help for the Ethernet Switch \(BayStack\)](#).

	Additional Procedures	Documentation
R	Installing the latest software patches.	<i>Installing MPS Software on the Solaris Platform and Installing MPS Software on the Windows Platform</i>
O	Installing and configuring the Corporate Directory Dialer.	<i>Corporate Directory Dialer Installation Guide and Corporate Directory Dialer User Guide</i>
R	Configuring MPS security features.	<i>MPS System Reference Manual</i>
O	Configuring databases.	
O	Installing 3rd party applications that existed on the MPS 2.1 disk onto the MPS 3.0 disk	
R	Copy over MMFs (vocabularies) residing on secondary MPS 2.1 disk to the MPS 3.0 disk.	

MPS 3.5 Upgrade Kits

The following table contains all the kits available to upgrade an MPS 2.1 to MPS 3.5. Kits delivered to a particular site only contain those items relevant to the sites hardware.

PEC	CPC	Description
NTV720ACAAE5	N0104666	MPS Ethernet Switch 470, 1RU, 48 port, 115/230VAC
NTV720ACABE5	N0104667	MPS Ethernet Switch 470, 1RU, 24 port, 115/230VAC
NTV720DBAAE5	N0106480	MPS Ethernet Switch 470 Gigabit Uplink Option
NTV720DBBAE5	N0106481	MPS Redundant Ethernet Switch 470 Gigabit Uplink Option
NTV720EAAAE6	N0107352	MPS Redundant Ethernet Cable Kit

PEC	CPC	Description
NTV721AACAE6	N0107354	MPS1000 Inter-Cabinet Gigabit Ethernet redundant Connection Cable, cat 6, 25 ft
NTV721CACAE6	N0107356	MPS1000 Inter-Cabinet Gigabit Ethernet redundant Connection Cable, cat 6, 50 ft
NTV723EABAE5	N0104695	MPS1000 Gigabit Ethernet Switch, Redundant 8 Port 1Gb Ethernet Option
NTV750ABDAE5	N0104710	MPS AP, Sun Fire V210 upgrade to Solaris 10. Includes 2x73Gb SCSI disk.
NTV750ACDAE5	N0104713	MPS AP, Sun Fire V240 upgrade to Solaris 10. Includes 2x73Gb SCSI disk.
NTV750CBDAE5	N0104715	MPS AP, Netra 240 upgrade to Solaris 10. Includes 2x146Gb SCSI disk.
NTV760ACABE5	N0104718	MPS Speech Server Upgrade, IBM X336, Windows 2003 Server, 73G
NTV760ACDA	N0059387	MPS Windows Server, Intel Dual (IBM X336), 1Gb memory extension to 2Gb
NTV760ACDAE5 NTV760ACEA NTV760ACEAE5	N0104721 N0059388 N0104722	MPS Windows Server, Intel Dual (IBM X336), 2Gb memory extension to 4Gb MPS Windows Server, Intel Dual (IBM X336), Recovery Disk Drive, 73G MPS Windows Server, Intel Dual (IBM X336), Recovery Disk Drive, 73G
NTV770ABBAE5	N0104793	MPS RAID (5x146Gb,AC) Level 5 Storage Unit for MPS Server, 115/230VAC, 2 hot swap power supplies, 2RU. Comes standard with 5x146Gb 3.5" 10K RPM drives, upgradable to 12 drives. All drives must be the same size.
NTV770CABAE5	N0104924	MPS RAID (5x146Gb,DC) Level 5

PEC	CPC	Description
		Storage Unit for MPS Server, - 48VDC, 2 hot swap power supplies, 2RU. Comes standard with 5x146Gb 3.5" 10K RPM drives, upgradable to 12 drives. All drives must be the same size.
NTV771ACAAE5	N0104928	146Gb (3.5", 10K RPM) disk drive for MPS RAID Level 5 Storage Unit, Max 12 disk drives (1.75Tb space). All drives in one RAID must be the same size.
NTV773ACAB	N0059839	MPS Solaris 10 upgrade for all Blade 150 workstations. Includes Solaris 10 and 80Gb disk drive.
NTV800ACAA	N0059847	MPS 1000 AP, Rel 3.0 Base System Software License, Solaris, per AP
NTV800ACAB	N0059848	MPS Rel 3.0 Solaris Media and Documentation CDROM
NTV800ACCD	N0227044	MPS 1000 Rel 3.5 Solaris Base Bundle (incl MPS3.5 Upg Bndl-prt from 2.1 AP base, RDB, MPS Developer, MPS Studio, and base for JSB, SSL, HTMLS, and XML). from Rel 2.1 base package NTV800ABAA or (NTV800AAA + NTV800AABA).
NTV800ACCB	N0175767	MPS 1000 Upgrade to Rel 3.5 Solaris Base Bundle for maintenance customers (incl AP base, RDB, MPS Developer, MPS Studio, and base for JSB, SSL, HTMLS, and XML) from Rel 3.0 base package NTV800ACAA or [(NTV800AAAA or NTV800ABAA) + NTV800ACBA.
NTV800ACCC	N0175768	MPS 1000 Upgrade to Rel 3.5 Solaris Base Bundle for non-maintenance customers (incl AP base, RDB, MPS Developer, MPS Studio, and base for JSB, SSL, HTMLS, and XML) from Rel 3.0 base package NTV800ACAA or [(NTV800AAAA or NTV800ABAA) + NTV800ACBA

PEC	CPC	Description
NTV800CAAA	N0206988	MPS 500 Rel 3.5 Solaris Base Bundle (incl AP base, RDB, MPS Developer, MPS Studio, and base for JSB, SSL, HTMLS, and XML). Includes VXML 2.1. Only available with suitable quantity of MPS 500 Port Bundle.
NTV800CAAB	N0206989	MPS 500 Upgrade to Rel 3.5 Solaris Base/port Bundle for maintenance customers (incl AP base, RDB, MPS Developer, MPS Studio, and base for JSB, SSL, HTMLS, and XML) from Rel 3.0 base/port bundle. Includes VXML 2.1.
NTV800CAAC NTV800CBAA	N0206990 N0227042	MPS 500 Upgrade to Rel 3.5 Solaris Base/port Bundle for non-maintenance customers (incl AP base, RDB, MPS Developer, MPS Studio, and base for JSB, SSL, HTMLS, and XML) from Rel 3.0 base/port bundle. Includes VXML 2.1. MPS 500 Upgrade to 3.5 Solaris Base/port Bundle (incl AP base, RDB, MPS Developer, MPS Studio, and base for JSB, SSL, HTMLS, and XML) from Rel 2.1 base package or base bundle. Only available with suitable quantity of MPS 500 Port Bundle.
NTV801ABCA	N0059855	MPS Rel 3.0/3.5 Win 2003 workstation (Customer supplied), Base System Software License, per workstation
NTV801ABCB	N0059856	MPS Rel 2.1 to Rel 3.0/3.5 Win 2003 workstation Customer supplied), Base System Software License Upgrade, per workstation
NTV802CAAA	N0059864	MPS Rel 3.0/3.5 N+1 AP Failover License. Must be equipped on every AP.
NTV802CBAA	N0059865	MPS Rel 3.0/3.5 Call Protect License. Must be equipped on every AP.

PEC	CPC	Description
NTV805BAAA	N0068146	MPS AP, MPS Developer 3.0.1 Application Execution Environment Runtime License, per port, Solaris or WinNT
NTV805BBAA	N0068147	MPS AP, MPS Developer 3.0.1 and VXML 2.0-Mar04 Interpreter Application Execution Environment Runtime License, per port, Solaris or WinNT
NTV810AAAA	N0059866	MPS Redundant Ethernet License, Per TMS. Not valid for VoIP.
NTV810EBCB	N0065771	MPS 500 3.0 Windows E1 Span Bundle (30 ports) License (includes span license, 30 Appl Eng lic, 30 MPS Developer 3.0 Appl Exec lic, 30 players, 30 DTMF decoders, 30 Tgens, 30 TCP/IP, 30 TN3270, 30 TNVT100).
NTV810TBCB	N0065773	MPS 500 3.0 Windows T1 Span Bundle (24 ports) License (includes span license, 24 Appl Eng lic, 24 MPS Developer 3.0 Appl Exec lic, 24 players, 24 DTMF decoders, 24 Tgens, 24 TCP/IP, 24 TN3270, 24 TNVT100).
NTV850AACA	N0059867	MPS Manager 3.0 Consolidation, Base Package per AP or Workstation (Solaris)
NTV850AACB	N0059868	MPS Manager 3.0 Consolidation upgrade, Base Package upgrade per AP or Workstation (Solaris)
NTV850BBAA	N0059882	MPS Manager 3.0 Consolidation, per port License, Solaris or Windows)
NTV851ACAA	N0059883	MPS Developer 3.0 Development License, per instance, Solaris
NTV851ACBA	N0059884	MPS Developer 3.0 Development License upgrade, per instance,

PEC	CPC	Description
		Solaris
NTV851BBAA	N0059885	MPS Developer 3.0 Development License, per instance, Windows
NTV851BBBA	N0059886	MPS Developer 3.0 Development License upgrade, per instance, Windows
NTV852ABAA	N0059887	MPS Studio 3.0 License, per instance, Solaris
NTV852ABBA	N0059889	MPS Studio 3.0 License upgrade, per instance, Solaris
NTV852BBAA	N0059890	MPS Studio 3.0 License, per instance, Windows
NTV852BBBA	N0059891	MPS Studio 3.0 License upgrade, per instance, Windows

Chapter 3. Upgrade from MPS 3.0 to MPS 3.5

Before You Begin

Getting Started

Before proceeding with the installation of software to upgrade from Avaya Media Processing Server 3.0 to MPS 3.5, read the following sections to understand:

Example

- Important considerations before upgrading,
- Check for compatible hardware,
- Upgrade tasks and approximate times to complete the tasks, and
- Required tools and kits needed to perform the upgrade.

Important Considerations Before Upgrading

The following questions are meant to help determine the most reasonable upgrade path for a given site based on the amount of time a system can remain out of service.

Example

1. Will I have enough time to perform all the upgrades?

Calculate the approximate total time needed for the site upgrade by adding up the times using the table in [Upgrade Tasks](#).

2. Do I need to perform all the upgrade procedures at once?

No. It is possible to upgrade the TMS, DCC, NICs, and Ethernet switches without upgrading the MPS APs and Speech Servers.

3. Can I upgrade MPS APs without upgrading the Speech Servers?

No. All the APs and Speech Servers within or associated with an MPS system must be upgraded together.

4. What Speech Servers are supported for the upgrade to MPS 3.5?

Speech Engine	MPS 3.0 Windows 2003	MPS 3.5 Windows 2003	Recommended MPS 3.5 Upgrade Paths	5. Comments
IAS 1.1.0	Y	Y	None	
IBM WVS 5.1.3	Y	N	IBM WVS 6.1.1	Grammar Supported. Recompile Recommended
Nuance 8.5	Y	Y	None	

Speech Engine	MPS 3.0 Windows 2003	MPS 3.5 Windows 2003	Recommended MPS 3.5 Upgrade Paths	5. Comments
Nuance 9	Y	Y	None	
OSR 3.0	Y	Y	None	
RealSpeak 4.0	Y	Y	None	
RealSpeak 4.5	Y	Y	None	
Verifier 3.5	Y	N	Verifier 4.1	May require Application changes.
Verifier 4.0	Y	N	Verifier 4.1	May require Application changes.

Upgrade Requirements

Before preceding with any upgrade procedure, ensure that the existing software meets the requirements to upgrade to MPS 3.5.

Supported operating systems

The following sections describe the operating systems that support MPS AP, Developer Workstation, CCSS Servers, and Speech Servers:

The following operating systems support MPS AP and Developer Workstation:

- Solaris 10
- Windows 2003
- Windows XP (Developer tools only)

The following operating systems support CCSS Servers:

- Solaris 10
- Windows 2003 (for CCSS Session Initiation Protocol (SIP) only)

The following operating systems support Speech Server:

- Windows 2003

Avaya Speech Software Integration package updates

Speech Server resources are products of third-party vendors. Each speech resource requires that you install the following software:

- Software that originates from Avaya:

This includes resource processing software and patch software.

Patch bundles, patch bundle pbadditions, and patches contain software to upgrade the existing software on the Speech Server node.

For information about how to install patch software on a Speech Server, see the Avaya Media Processing Server 3.5 Speech Server 6.5 Installation Guide and Release Notes (NN44100- 305).

- Software that originates from the vendor:

This contains the speech recognition or synthesis resource processing software.

Vendor-specific patches are installed with the vendor software on the Speech Server node.

- Apache Web Server:

For information about how to install Apache Web Server, see the Avaya Media Processing Server 3.5 Speech Server 6.5 Installation Guide and Release Notes (NN44100-305).

Upgrade Tasks

The following table lists all the tasks and the approximate times to complete the tasks in upgrading an MPS 3.0 to MPS 3.5. Print out the following table and use it as a checklist while performing the tasks. Place a checkmark in the table next to each successfully completed task.

Caution:

Perform the applicable tasks for your site in the order listed in the table below.

Tasks	Task Location	Time to Complete
MPS Developer/Studio Workstation Node - MPS Developer 3.0 to MPS Developer 3.5 Solaris Software Upgrade (If applicable)		30 minutes per workstation
MPS Developer/Studio Workstation Node - MPS Developer 3.0 to MPS Developer 3.5 Windows Software Upgrade (If applicable)		30 minutes per workstation
MPS Manager Workstation Node – MPS Manager 3.0 to MPS Manager 3.5 Solaris Software Upgrade (If applicable)		30 minutes per workstation
MPS Manager Workstation Node – MPS Manager 3.0 to MPS Manager 3.5 Windows Software Upgrade (If applicable)		30 minutes per workstation
MPS 3.0 to MPS 3.5 Solaris Application Processor Software Upgrade Note: In an N+1 Environment, perform Standby Server upgrade before Primary Server(s) upgrade.		45 minutes per AP
MPS 3.0 to MPS 3.5 N+1 Standby		45 minutes

Tasks	Task Location	Time to Complete
Solaris Server Upgrade		
MPS 3.0 to MPS 3.5 Windows Application Processor Software Upgrade Note: In an N+1 Environment, perform Standby Server upgrade before Primary Server(s) upgrade.		45 minutes per AP
MPS 3.0 to MPS 3.5 N+1 Standby Windows Server Upgrade		45 minutes
MPS 3.0 to MPS 3.5 Speech Server Upgrade		30 minutes per Speech Server
Standalone MPS 3.0 CCTIVR to MPS 3.5 CCTIVR Windows Upgrade Note: CCTIVR Co-res with MPS AP will be upgraded by MPS AP Upgrade.		30 minutes
Standalone MPS 3.0 CCSS 6.3 to MPS 3.5 CCSS6.3 SS7/SIP Solaris Upgrade Note: CCSS6.3 Co-res with MPS AP will be upgraded by MPS AP Upgrade.		30 minutes
Standalone MPS 3.0 CCSS 6.3 SIP to MPS 3.5 CCSS6.3 SIP Windows Upgrade Note: CCSS6.3 SIP Co-res with MPS AP will be upgraded by MPS AP Upgrade.		30 minutes

Backing Up Applications and Files

Before preceding with any of the upgrade procedures contained in this document, Avaya recommends that you backup customer applications, configuration files, MMFs (vocabularies), and any other important files in case the upgrade fails to install correctly.

Avaya requires that you upgrade MPS 3.0 to MPS 3.5 on a production system during a scheduled maintenance window. All APs and Speech Server in the system or group (MPS components, Telephony Media Servers (TMS) and Network Interface Controllers (NIC) in the tms.cfg file) are upgraded during the same window and are at the same perirev level.

Upgrade Tasks

Avaya Media Processing Server 3.5 upgrade installation

You can install the Avaya MPS 3.5 upgrade on a Common Channel Signaling Server (CCSS) Signaling System 7 (SS7) / Session Initiation Protocol (SIP) server, Solaris Media Processing Server Applications Platform (MPS AP) server, Windows Media Processing Server (MPS), Speech Server, and all MPS workstations that are at MPS 3.0 release.

The following networking requirements are mandatory for Windows systems before you install the MPS 3.5 upgrade:

- Disable all the network interfaces that are not used.
- Ensure that the Windows hosts file located in the folder C:\WINDOWS\system32\drivers\etc\hosts contains an entry for the IP address and hostname of every enabled non Dynamic Host Configuration Protocol (DHCP) network interface.

The following section describes the other requirements for installing the MPS 3.5 upgrade:

- Ensure that the person installing the upgrade is familiar with MPS and the patching process.
- Run the Avaya patchprecheck program on the system with the Windows operating system, before you install the upgrade. Resolve any errors before you install the upgrade.
- If you install the upgrade in an N+1 environment, see [Installing MPS 3.5 upgrade in an N+1 environment](#).
- If you install the upgrade for an MPS 1000 system, see [MPS 1000 AP NIC ATM configuration](#) to configure the tmscomm component vos.cfg file in an Asynchronous Transfer Mode (ATM) or non-ATM environment.
- Ensure that the installer for the MPS 3.5 upgrade is already staged on the system to upgrade before you install the MPS 3.5 upgrade.
- Obtain the passwords for users peri and root for the Solaris nodes and the Administrator password for a Windows node from the customer.

Installing MPS 3.5 upgrade on a Solaris MPS AP or workstation

Use the following procedure before you install the MPS 3.5 upgrade on a Solaris MPS AP or workstation:

Before installation

1. Log on to the system as peri.
2. Change to the root user, and enter the command `su - root`.
3. Enter the command `csch`.
4. Source/etc/vpsrc.csh.
5. Stop all MPS services.
6. Change directory to where MPS 3.5 upgrade is located.

Note:

MPS 3.5 upgrade is located in patchbundles/mps3.5.0.patchbundle3 directory on the media. For example: `cd /cdrom/mps35bp3/patchbundles/mps3.5.0.patchbundle3`

1. Run the patchprecheck program by entering `./patchprecheck`.

The patchprecheck checks the system for items that cause the MPS 3.5 upgrade installation to fail:

- Incorrect Practical Extraction and Report Language (PERL) version.

- MPS services that are running.
 - Incorrect MPSHOME/VPSHOME environment variables.
 - MPS processes that are running.
2. Before you proceed, ensure that you resolve any issues found by the patchprecheck utility.

Use the following procedure to install MPS 3.5 upgrade on a Solaris MPS AP or workstation.

Installation

1. Ensure MPS 3.5 upgrade is in the pwd directory.

Note:

MPS 3.5 upgrade is located in patchbundles/mps3.5.0.patchbundle3 directory on the media. For example: cd/cdrom/mps35bp3/patchbundles/mps3.5.0.patchbundle3

2. Enter the command ./peripatch to begin the patch installation.

This step should take 10 to 15 minutes. Check the screen output for failed or exited messages when the script ends. Inform Avaya Support of any failures.

3. Verify that the upgrade installation is successful. Enter the perirev command to view the patch level.
4. Enter the following command to ensure no previous patch bundles are listed:

```
perirev | grep mps3.0.0
```

Caution:

Do not continue if any mps3.0.0 entries exist. Inform Avaya Support of any failures.

5. Reboot the node.
6. Repeat this procedure for all APs.

Important: You must verify the patch bundle installation as documented. See [Verifying the MPS 3.5 upgrade installation](#).

Installing MPS 3.5 upgrade on a Windows MPS AP or workstation

Perform the following procedure before you install MPS 3.5 upgrade on a Windows MPS AP or workstation:

Before installation

1. Logon to the system as Administrator.
2. Stop all MPS services.
3. From the command tool, change directory to where the MPS 3.5 upgrade is located.
4. Enter the command patchprecheck to run the patchprecheck program.

The patchprecheck checks the system for items that cause the MPS patch bundle installation to fail such as:

- Incorrect PERL version.
 - MPS services that are running.
 - Incorrect MPSHOME/VPSHOME environment variables.
 - MPS processes that are running.
5. Before you proceed, ensure that you resolve any issues found by patchprecheck.

6. Ensure that you meet the networking requirements for MPS products on Windows servers. For details on the networking requirements, see [Avaya Media Processing Server 3.5 upgrade installation](#).

Perform the following procedure to install the MPS 3.5 upgrade on a Windows MPS AP or workstation:

Installation

7. From the Explorer window, double-click the MPS 3.5 patch bundle executable.

Caution:

Installation process should take 10 to 15 minutes. Inform Avaya Support of any failures.

Reboot the system when prompted during the installation and upgrade process.

Do not skip any reboot prompts.

8. Verify that the patch bundle installation is successful.

Enter the command `perirev` at a command prompt, and ensure no `mps3.0.0` information is listed.

9. Reboot the system when prompted, and install all available MPS 3.5 patch bundle addition patches by double-clicking each patch executable.

10. Repeat this procedure for all Windows MPS APs.

Important: You must verify the patch bundle installation as documented. See [Verifying the MPS 3.5 upgrade installation](#).

Installing MPS 3.5 upgrade on a Windows Speech Server

Perform the following procedure before you install MPS 3.5 upgrade on a Windows Speech Server:

Before installing

1. Logon to the system as Administrator.
2. Stop all MPS services.
3. From the command tool, change directory to where the MPS 3.5 upgrade is located.
4. Enter the command `patchprecheck` to run the patchprecheck program.

The patchprecheck checks the system for items that cause the MPS patch bundle installation to fail such as:

- Incorrect PERL version.
- Installing MPS 3.5 upgrade on a Solaris CCSS SS7/SIP (MPS SIP) server
- MPS services that are running.
- Incorrect MPSHOME/VPSHOME environment variables.
- MPS processes that are running.

5. Before you proceed, ensure that you resolve any issues found by patchprecheck.
6. Ensure that you meet the networking requirements for MPS products on Windows servers. For details on the networking requirements, see [Avaya Media Processing Server 3.5 upgrade installation](#).

Perform the following procedure to install MPS 3.5 upgrade on a Windows Speech Server:

Installation

1. From the Explorer window, double-click the patch bundle executable.

Caution:

Reboot the system when prompted during the installation and upgrade process.

Do not skip any reboot prompts.

2. Verify that the patch bundle installation is successful.

Enter the command `perirev` at a command prompt, and ensure no previous patch bundles are listed.

3. Reboot the system when prompted, and install all available MPS 3.5 patch bundle addition patches by double-clicking each patch executable.
 - a. If required, install speech vendor integration packages.

For more information, see the Avaya Media Processing Server 3.5 Speech Server 6.5 Installation Guide and Release Notes (NN44100-305).

4. Reboot the system.
5. Repeat this procedure for all Speech Servers.

Important: You must verify the patch bundle installation as documented. See [Verifying the MPS 3.5 upgrade installation](#).

Installing MPS 3.5 upgrade on a Solaris CCSS SS7/SIP (MPS SIP) server

Perform the following procedure before you install MPS 3.5 upgrade on a Solaris CCSS SS7/SIP server:

Before installing

1. Log on to the system as `peri`.
2. Change to the root user. Enter the command `su - root`.
3. Enter the command `csch`.
4. Source `/etc/vpsrc.csh`.
5. Stop all MPS services.
6. Change directory to where MPS 3.5 upgrade is located.

Note:

MPS 3.5 upgrade is located in `patchbundles/mps3.5.0/patchbundle3` directory on the media. For example: `cd /cdrom/mps35bp3/patchbundles/mps3.5.0.patchbundle3`

7. Run the `patchprecheck` program by entering `./patchprecheck`.

The `patchprecheck` checks the system for the following items that cause the MPS patch bundle installation to fail:

- Incorrect PERL version.
- MPS services that are running.
- Incorrect values for `MPSHOME/VPSHOME` environment variables.
- MPS processes that are running.

8. Before you proceed, ensure that you resolve any issues found by `patchprecheck`.
9. Back up custom made `TPM1100` ini files in the `/tftpboot` directory for later retrieval.
10. Check the Java version at the location `/usr/java/bin/java-version` on the Solaris CCSS SS7 / SIP (MPS SIP) server.
11. Verify that the Java version is at least 1.5.

If the Java version is not 1.5 (or later), call Certified Avaya Technical Support. For more details, see "Customer Service".

12. Modify the contents of the Javahome environment variable at the location \$CCSSHOME/etc/javahome to /usr/java.

Perform the following procedure to install MPS 3.5 upgrade on a Solaris CCSS SS7/SIP Server:

Note:

When prompted, select the appropriate Transaction Capabilities Application Part (TCAP) Access Stack Node (ASN) .1 encoding format for the MTI process setup. Enter the appropriate encoding number to continue installation.

Installation

13. Ensure MPS 3.5 upgrade is in the pwd directory.

Note:

MPS 3.5 upgrade is located in patchbundles/mps3.5.0.patchbundle3 directory on the media. For example: `cd /cdrom/mps35pb3/patchbundles/mps3.5.0.patchbundle3`

14. Enter the command `./peripatch` to begin the patch installation.

This step should take 10 to 15 minutes. Check the screen output for failed or exited messages when the script ends. Inform Avaya Support of any failures.

15. Verify that the patch bundle installation is successful. Enter the `perirev` command to view the patch level.
16. To ensure there are no previous patch bundles still listed, enter the command: `perirev | grep mps3.0.0`

Note:

Do not continue if there are any mps3.0.0 entries. Inform Avaya Support before you continue.

17. Reboot the node.
18. Repeat the procedure for all CCSS servers.

Important: You must verify the patch bundle installation as documented. See [Verifying the MPS 3.5 upgrade installation](#).

Installing MPS 3.5 upgrade on a Windows CCSS SIP server

Perform the following procedure before you install MPS 3.5 upgrade on a Windows CCSS SIP server:

Before installing

1. Logon to the system as Administrator.
2. Stop all MPS services.
3. From the command tool, change directory to where MPS 3.5 upgrade is located.
4. Run the patchprecheck program by entering `patchprecheck`.

The patchprecheck checks the system for items that cause the MPS patch bundle installation to fail:

- Incorrect PERL version.
- MPS services that are running.
- Incorrect values for MPSHOME/VPSHOME environment variables.
- MPS processes that are running.

5. Before you proceed, ensure that you resolve any issues found by patchprecheck.
6. Ensure that you meet the networking requirements for MPS products on Windows servers.

Use the following procedure to install MPS 3.5 upgrade on a Windows CCSS SIP Server.

Installation

7. From the Explorer window, double-click the MPS 3.5 upgrade executable.

Caution:

Installation process should take 10 to 15 minutes. Inform Avaya Support of any failures.

Reboot the system if you are prompted, during the installation and upgrade process. Do not skip any reboot prompts.

8. Verify that the upgrade installation is successful.
Enter the command `perirev` at a command prompt and ensure no `mps3.0.0` information is listed.
9. If you are prompted, reboot the system and install all available MPS 3.5 patch bundle addition patches by double-clicking each patch executable.
10. Reboot the system.
11. Repeat this procedure for all CCSS SIP Servers.

Installing MPS 3.5 upgrade in an N+1 environment

Caution:

Upgrade process on each MPS node (Primary or Secondary) takes 10 to 15 minutes.

In an N+1 environment, install MPS 3.5 upgrade, first on the secondary node (when in the standby state) and then on the primary node.

Perform the following procedure to install MPS 3.5 upgrade:

Installation

1. Run the `patchprecheck` program on the secondary node. Resolve any failures before you proceed.
2. Install the upgrade on the secondary node. For instructions, see [Installing MPS 3.5 upgrade on a Windows MPS AP or workstation](#) or [Installing MPS 3.5 upgrade on a Solaris MPS AP or workstation](#).
3. On a Solaris system;
To stop the Startup / Recovery Process (SRP), enter the command: `/etc/rc3.d/S20vps.startup stop`
To Stop the Redundancy Configuration Daemon (RCD) service, enter the command:
`/etc/rc3.d/S19rcd.startup stop`.
On a Windows system, stop the Avaya MPS Service and the Avaya Redundancy Configuration Daemon (RCD) Service.
4. Optionally, bring the secondary node down.
5. Run the `patchprecheck` program on the primary nodes. Resolve any failures before you proceed.
6. Install the upgrade on all the primary nodes. For more information, see [Installing MPS 3.5 upgrade on a Windows MPS AP or workstation](#) or [Installing MPS 3.5 upgrade on a Solaris MPS AP or workstation](#).
7. Restart the primary nodes.
8. For MPS 500 or MPS 1000, ensure that the TMSs display the correct images.
For MPS 1000, ensure that the NICs display the correct images.
9. Reboot the secondary node.

Verifying the MPS 3.5 upgrade installation

After you install MPS 3.5 upgrade, you must verify the installation. The following sections detail how to verify the patch bundle installation:

DCCSS7 image reload and verification

For a CCSS SS7 (Solaris) system, you must reload and verify the DCCSS7 image.

DCCSS7 image reload

Enter the following command on the command line to reload the DCC3000 SS7 image:

```
mgmtui> control link = Name, action = REBOOT
```

Optionally, TMS hardware can be physically reset, to reset the DCC3000 card.

TPM1100 image reload and verification

For a CCSS SIP (Solaris & Windows) system, you must reload and verify the TPM1100 image.

TPM1100 Image reload

Enter the following command to reload the TPM1100 GW image: sipui> tpmreset tmsName command

Optionally, TMS hardware can be physically reset, to reset the TPM1100 card.

MPS 500 AP or MPS 1000 AP image reload and verification

For an MPS 500 or MPS 1000 (Windows or Solaris) system, you must reload and verify the TMS image. This process takes 5 to 10 minutes.

TMS Image reload

Reload the TMS image using the following command: dlt>startup Run this command for each MPS component on all APs. After you reset all components, wait for the SRP to enter the RUNNING state.

Optionally, you can physically reset the TMS hardware.

Manual TMS image verification

Verify the image on each TMS. Enter the following commands at a command prompt to verify the image:

```
telnet <tms hostname or IP address> 80 get // http (press Enter twice)
```

The output appears on the screen. Ensure that the tms_860.elf release number is 3.5.0.4 or later. If you see any other release number, inform Avaya Support before you proceed.

For example, the release number can look as follows:

```
TMS Image String: <tr><td>Build Identity</td><td align="center">tms_860.elf, Release 3.5.0.4 [08/09/10 11:02:11 AM]</td></tr>
```

MPS 1000 AP NIC image reload and verification

On a Solaris MPS 1000 system, you must reload and verify the Network Interface Controller (NIC) image.

NIC Image reload

Use the following procedure to reload and verify the NIC image on a Solaris MPS 1000 system.

Note:

You must reload and verify the NIC image only after all the APs are patched.

1. Using the vsh command, go to the tmscomm component; select the tmscomm component at the vsh prompt.
2. Enter the ncd system command to find primary or secondary NICs. In the output of ncd system command, the heading NIC (P) indicates slot 7 and the heading NIC(S) indicates slot 8.
3. Reset all secondary NICs using the command ncd nicbpsreset'<ch#> s <bps#>
4. 0'where <ch#> is chassis number and <bps#> is the backplane slot number.

5. Enter the reset command for both NICs on one line.

For example, to set the Secondary NICs in BPS 8, enter the following command:

```
Vsh>ncd nicbpsreset '1 s 8 0'; ncd nicbpsreset '2 s 8 0'
```

6. Reset all primary NICs by using the command `ncd nicbpsreset '<ch#> m <bps#> 0'` where `<ch#>` is chassis number and `<bps#>` is the backplane slot number.
7. Enter the reset command for both NICs on one line.

For example, to set the Primary NICs in BPS 7, enter the following command:

```
Vsh>ncd nicbpsreset '1 m 7 0'; ncd nicbpsreset '2 m 7 0'
```

Optionally, you can physically reset NICs by pressing the reset button on the cards.

Note:

When you physically reset NICs, reset the secondary NIC first, and then the primary NIC.

Manual NIC image verification

To verify the image on each NIC, enter the following commands at a command prompt: `telnet <nic hostname or IP address> 80 get // http` (press Enter twice)

The output appears on the screen. Ensure that the `nic_860.elf` release number is 3.5.0.4 or later. If you see any other release number, inform Avaya Support before you proceed.

For example, the release number can look as follows:

```
NIC Image String: <tr><td>Build Identity</td><td align="center">nic_860.elf, Release 3.5.0.4 [08/09/10  
10:44:36 AM]</td></tr>
```

For MPS 1000 systems, Avaya recommends that you perform the NIC hardware verification after the patch bundle installation. For information about NIC failover testing, see [MPS 1000 NIC failover testing](#).

Final verification steps

After you verify MPS 3.5 upgrade installation, perform the following as a final verification:

1. Verify that SRP is up and running.
2. Make test calls to ensure that the system functions as expected.

Optional verification steps

To test and verify the patch bundle installation in detail, perform the following optional verification tests.

MPS 1000 AP NIC ATM configuration

Single Chassis MPS 1000

ATM is not supported for single chassis MPS 1000 systems.

Multi-chassis MPS 1000 with ATM

You can configure a multi-chassis MPS 1000 system to support inter chassis connections through ATM. If ATM is not required, see [Multi chassis MPS 1000 without ATM](#). To enable the ATM interface, you must connect each NIC ATM fiber optic cable as described in the MPS 1000 Hardware Installation and Maintenance Manual (NN44100-301).

Caution:

The MPS/NIC software monitors the status of optical fiber connections. Failure to correctly connect the fiber optic cable causes the software to generate alarms and the fault affects the behavior of a hardware failure.

Multi chassis MPS 1000 without ATM

You can configure a multi-chassis MPS 1000 without ATM. The default operation of the MPS/NIC software in a multi chassis MPS 1000 is to monitor the ATM hardware and detect loss of connection.

Caution:

Failure to disable the ATM monitoring feature results in unnecessary fault alarms generated by ATM software. The detected fault further affects the hardware failover and redundancy.

The ATM monitoring software must be disabled if the customer, site, or installation

- Does not require ATM.
- Does not have the ATM hardware.
- Does not have the ATM fiber optic connections.

Disabling ATM monitor software

Ensure that the ncd entry in \$MPSHOME/tmscommN/etc/vos.cfg is set to the following for both tmscomm components.

```
ncd - - 0 "ncd -n"
```

Note:

You must restart the SRP on both tmscomm component nodes and all NICs (four NICs in case of two chassis) for the previous configuration to take effect.

NCD Diagnostic commands

Use the following commands to interrogate various attributes of the NIC environment. Enter ncd help <command> at a vsh prompt for additional details on command usage.

- ncd system: overall health of NICs
- ncd chassisstatu: I2C power supply and temperature information, TMS physical status
- ncd nicbpsreset: force the NIC reset
- ncd nicgetsysmode: - query NIC mode
- ncd nicconn: list of NIC connections
- ncd pllstatus: obtain the PLL status from NICs and TMSs
- ncd pllgetrefsrc: hardware report of A and B clock status in backplane

MPS 1000 NIC failover testing

NIC failover testing verifies that the arbitration hardware required for redundancy on the NIC is functional. You must perform this test when SRP is running and the system is stable. This test requires four resets for each chassis because each chassis has two NICs and each NIC can be either Primary or Standby (Master or Slave). After you reset the Primary or Master NIC in a chassis, the Standby or Slave NIC takes control of the backplane.

The interchassis configuration clocking can be affected by each NIC reset. Any chassis that is not defined as a clock source in the sync-list section of the tms.cfg file is a clock sink by default. System clocking on a NIC is partitioned so that the NICs in slot 7 distribute the A clock and the NICs in Slot 8 distribute the B clock. The source chassis drives the clock to the rear-panel BNC on the chassis. The sink chassis receive this clock signal and drives it to the local backplane. If you reset NIC in slot 7, the A clock source is interrupted on the

chain. Resetting the NIC in slot 8 interrupts the B clock. In each case, the source chassis is not affected, the source is local to the chassis. When a NIC that drives a clock is reset, the sink chassis loses that clock. The clock recovers after the NIC restarts and stabilizes.

If the tms.cfg file has NIC entries for multiple chassis, it is considered a multichassis configuration. In a multichassis configuration, to support ATM independent of whether it is enabled or not, the primary NIC in all chassis must be in the same Backplane slot position. For example, if the primary NIC in chassis 1 slot 7 resets, the NICs in slot 8 of all chassis become the primary controllers.

Test Case	NIC Backplane Slot and mode	Results	Immediately after NIC reset	After NIC loads and system stabilizes
	NIC Slot 7 Mode	NIC Slot 8 Mode		
Reset Primary Slot 7	Primary	Secondary	NIC Slot 8 becomes Primary Controller. A clock is affected in all sink chassis.	NIC Slot 8 remains Primary Controller. A clock is affected in all sink chassis.
Reset Secondary Slot 7	Secondary	Primary	NIC Slot 8 remains primary controller. A clock is affected in all sink chassis.	NIC Slot 8 is still primary controller. A clock is recovered in sink chassis.
Reset Primary Slot 8	Secondary	Primary	NIC Slot 7 becomes primary controller. The B clock is affected in all sink chassis.	NIC Slot 7 remains primary controller. The B clock is recovered in sink chassis.
Reset Secondary Slot 8	Primary	Secondary	NIC Slot 7 remains primary controller. The B clock is affected in all sink chassis.	NIC Slot 7 remains primary controller. The B clock is recovered in sink chassis.

Caution:

If all SRP processes are not up or Spans are in an alarm state, adverse effects can occur on this series of tests.

To verify that the NICs and NCD are in a stable state, perform the following steps.

1. From the TMScomm.# component in a VSH, enter the ncd system command to verify:
 - number of chassis in system
 - the TMSs that are available
 - which NICs are master or slave (should match LED observations)
 - clock status (errors may occur if TMSs are not yet up)

The following output is a truncated sample of the ncd system command. The DTC INFORMATION section of this report indicates the availability and status of the NICs. The heading NIC (P) indicates slot 7 and the heading NIC(S) indicates slot 8. In this sample report, NICs in slot 7 are primary or master controllers.

```
vsh#tmscomm.2,vos/MPSAP1-a {13} -> ncd system
Please Wait. This command will take a few seconds to acquire and format data.
vsh#tmscomm.2,vos/MPSAP1- a {14} ->
DTC INFORMATION
=====
```

```
CH BPS1 BPS2 BPS3 BPS4 NIC(P) NIC(S) PriClk SecClk
-----
```

1. Avail Avail NA(NE) NA(NE) Mstr Slv ClkA ClkB
2. Avail Avail NA(NE) NA(NE) Mstr Slv ClkA ClkB
2. Enter the **ncd chassis** command to verify:
 - power and voltage
 - current temperature
 - mated/not-mated status
 - watchdog pass/fail status

Before and after each test, do the following:

1. Observe the current state of NIC LEDs NARB, ONARB, VC0, VC1, OVC0, and OVC1; The LEDs have labels printed on the board next to the LED.
2. Check **ncd** commands and compare the results to current LED status.
3. On the NIC card, check the three banks of four red LEDs. The second bank contains the following LEDs, from top to bottom:
 - AVLID: Clock rail A has a valid signal.
 - BVLID: Clock rail B has a valid signal.
 - NARB: Current NICs Ethernet arbitration bit
 - ONARB: Other NICs Ethernet arbitration bit

One NIC must have the NARB on and ONARB off. The other NIC should have NARB off and ONARB on.

4. The third bank of LEDs contains the following LEDs, from top to bottom:

LEDs	Master NIC LEDs	Slave NIC LEDs	Single NIC LEDs (Master without Slave)
NVC1	OFF	ON	OFF
NVC0	ON	OFF	ON
ONVC1	ON	OFF	OFF
ONVC0	OFF	ON	OFF

When it operates properly as a redundant pair, the master NIC has NVC0 and ONVC1 on, and the slave NIC has NVC1 and ONVC0 on as shown in the preceding table.

You must run the **ncd system** and **ncd chassis** commands from the primary tmscomm component. If you see the following message: NCD System (Comp #1) is not in MASTER READY state. Please issue command later change your vsh to the other tmscomm component.

Physical NIC failover testing

For NIC failover testing, perform the following steps on chassis 1:

1. Reset the Primary controller in chassis 1. This should cause secondary controllers to become primary.
For example, if chassis 1 slot 7 NIC is the primary controller, resetting it causes chassis 1 slot 8 NIC to become the primary (master). In multichassis systems, NICs in the other chassis slot 8 becomes the primary (master).
2. Reset the Secondary controller in chassis 1. The primary controller of any chassis should remain unchanged.
For example, if chassis 1 slot 7 NIC is the secondary controller, resetting it causes the chassis 1 slot 7 NIC to reload. The rest of the NICs must remain in the same state.
3. Reset the Primary controller in chassis 1. This causes the secondary controllers to become primary.
For example, if chassis 1 slot 8 NIC was the primary controller, resetting it causes chassis 1 slot 7 NIC to become primary (master). In multichassis system, NICs in the other chassis slot 7 become primary (master).
4. Reset the Secondary controller in chassis 1. The primary controller of any chassis should remain unchanged.
For example, if chassis 1 slot 8 NIC was the secondary controller, resetting it causes the chassis 1 slot 8 NIC to reload. The rest of the NICs should remain in the same state.

On chassis 2, perform the following steps:

5. Reset the Primary controller in chassis 2. This should cause secondary controllers to become primary.
For example, if chassis 2 slot 7 NIC was the primary controller, resetting it causes the chassis 2 slot 8 NIC to become primary (master). In a multichassis system, the NICs in the other chassis slot 8 become primary (master).
6. Reset the Secondary controller in chassis 2. The primary controller of any chassis should remain unchanged.
For example, if chassis 2 slot 7 NIC was the secondary controller, resetting it causes the chassis 2 slot 7 NIC to reload. The rest of the NICs should remain in the same state.
7. Reset the Primary controller in chassis 2. This should cause secondary controllers to become primary.
For example, if chassis 2 slot 8 NIC was the primary controller, resetting it causes chassis 2 slot 7 NIC to become primary (master). In a multichassis system, the NICs in the other chassis slot 7 become primary (master).
8. Reset the Secondary controller in chassis 2. The primary controller of any chassis should remain unchanged.
For example, if chassis 2 slot 8 NIC was the secondary controller, resetting it causes the chassis 2 slot 8 NIC to reload. The remainder of the NICs should be in the same state.

Software NIC failover testing

You can optionally perform software NIC failover testing by performing the following steps.

Note:

You can run all **ncd** commands can only from the tmscomm component. If you are on chassis 1, enter **vsh - C#tmscomm.1** to obtain a vsh prompt. If you are on chassis 2, type **vsh - C#tmscomm.2**.

1. At a vsh prompt, enter the command **ncd system** to obtain the slot of master NIC.

2. Enter **ncd nicbpsreset '<ch#> m <bps#> 0'** to force the master NIC in the specified chassis number and bps number to reset.
<ch#> represents the chassis number, **<bps#>** represents the BPS number.
3. The slave NIC (in both chassis) should now become the master. This process can take 3 to 4 minutes to complete.
4. Enter the command **ncd system** to verify the NIC state.

Completing the Upgrade Process

Verifying the Completed Upgrade

To verify the successful upgrade of Avaya Media Processing Server 3.0 to MPS 3.5 perform the Field Factory Test(s) (FFT). The FFTs are included on the hard disk that is part of the MPS 3.0 to MPS 3.5 Application Server Software Upgrade Kit.

Field Factory Tests

FFTs for specific platforms and hardware configurations are located in \$MPSHOME/PERIfft/fftests. The FFT scripts can be found in the following locations.

Field Factory Test	Supported Platform
\$MPSHOME/PERIfft/fftests/oscar6	Speech Server
\$MPSHOME/PERIfft/fftests/mps3/mps500/e1test \$MPSHOME/PERIfft/fftests/mps3/mps500/t1test \$MPSHOME/PERIfft/fftests/mps3/mps500/tpm	MPS 500
\$MPSHOME/PERIfft/fftests/mps3/mps1000/e1test \$MPSHOME/PERIfft/fftests/mps3/mps1000/t1test \$MPSHOME/PERIfft/fftests/mps3/mps1000/tpm	MPS 100

Field Factory Test Documentation

To determine which test(s) to use, refer to the table below for the documentation specific to the platform and hardware configuration. The documentation is located in \$MPSHOME/PERIfft/fftests/docs.

Document	Description
0136681_oscar6_fft.pdf	Speech Server FFT
0136685-mps500-fft.pdf	MPS 500 FFT (Basic Platform Test)
0136686-mps500-tpm-fft.	pdf MPS 500 FFT with TPM hardware (TPM 200,800, and 1100)1
0136687-mps1000-fft.pdf	MPS 1000 FFT (Basic Platform Test)
0136688-mps1000-tpm-fft.pdf	MPS 1000 FFT with TPM hardware (TPM 200, 800, and 1100) "Link to target"

Dependent on the platform configuration. Only perform the TPM FFT procedure after the Basic Platform Test is completed.

Accessing FFT Documentation from a Sun Console

Example

1. Redirect the display on the MPS AP to the Sun test console.
`setenv DISPLAY <nodename or IP address> :0`
2. Start Acrobat Reader in the background.
`acroread &`
3. Navigate to `$MPSHOME/PERIfft/fftests/docs` and open the appropriate FFT document.

Accessing FFT Documentation from a PC

Note:

The PC must be on the same network as the MPS AP.

Example

1. Using Exceed connect to the MPS AP and redirect the display to the PC:
`setenv DISPLAY <PC IP address> :0`
2. FTP over to the MPS AP and execute the following commands to copy FFT documents to the PC.

Note:

Occasionally, the FFT documents get patched (updated) similar to other parts of the FFT package. Over time, the local copies stored on the PC become outdated. Always check for a newer version of documents as PERIfft is patched.

- a. `cd $MPSHOME/PERIfft/fftests/docs`
- b. `bin` (for binary transfer)
- c. `get <document_filename.pdf> or mget 0136*`
- d. Use Acrobat Reader on the PC to open FFT documents.

After The Upgrade

After performing all the required upgrade procedures and successfully testing the system using Field Factory Tests and live call testing there are additional procedures which may be necessary depending on site specific requirements.

The table below lists procedures which are either recommended or optional, these are indicated in the first column by either an "R" or an "O". All reference documentation listed is available on the Avaya Web site which is described in the Customer Service section of the Preface.

	Additional Procedures	Documentation
R	Installing the latest software patches.	Installing MPS Software on the Solaris Platform (NN44100-303) and Installing MPS Software on the Windows Platform (NN44100-304)

R	Configuring MPS security features	Avaya MPS System Reference Manual (NN44100-100)
O	Configuring databases	