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Preface
Scope

This document summarizes software issues; new, changed and discontinued features; and required patches for the Nortel Media Processing Server (MPS).

This document contains information for the newest patch bundle (Patch Bundle 12) and previous patch bundle releases, starting with Patch Bundle 11. Patch bundles are cumulative and although you can install them over previous patch bundles, they do not require that you install previous patch bundles.

Intended audience

This guide is based on the assumption that you completed an on-site system familiarization training program as part of the initial system installation. In addition, ensure you are familiar with other site-specific operating procedures related to the MPS due to specific application functions performed by the MPS and with other equipment to which MPS connects. You must also have a basic knowledge of the Solaris and Windows operating systems.

How to get help

Getting help over the phone from a Nortel Solutions Center

Use the following information to contact a Nortel Solutions Center:

- In North America, call 1-800-4NORTEL (1-800-466-7835).
- Outside North America, visit the following Web site to obtain the phone number for your region:
  www.nortel.com/callus

Getting help from a specialist using Express Routing Code

Use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service.

To locate the ERC for your product or service, go to:
www.nortel.com/erc

How to use this manual

This manual uses many standard terms that relate 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. For definitions of MPS specific terms, see the Glossary of MPS Terminology (P0602812).

Read this document 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 read this document online, use the cross-references (shown in blue) to quickly locate related topics. Position your cursor over the link and click once. Click any point
in a Table of Contents entry to move to that topic.

To familiarize with the purpose of specially formatted text, see *Conventions used in this manual* on page 9.

Periphonics is part of Nortel. The name Periphonics, and variations thereof, appear in this manual only in reference to a product (for example, a PeriProducer application, the PERImps package or the `perirev` command).

**Organization of this manual**

Chapter 1 — MPS Patch Requirements

This chapter describes the minimum software patch requirements for MPS 2.1 systems.

Chapter 2 — Patch Bundle 12 Installation

This chapter describes the installation prerequisites and process for Patch Bundle 12.

Chapter 3 — Updates to MPS 2.1

This chapter describes what’s new in Patch Bundle 12, unsupported features and commands, and changed features or commands.

Chapter 4 — MPS 2.1 Known Issues

This chapter describes the known issues and solutions for the MPS 2.1 Patch Bundle 12 and previous patch bundles.

Chapter 5 — Enhancements and Issues Addressed in the patch bundle

This chapter describes the issues resolved with MPS 2.1 Patch Bundle 12 and the specific patch that addresses each issue.

**Conventions used in this manual**

This manual uses various fonts and symbols to differentiate between document elements and types of information. The following table summarizes these conventions.

<table>
<thead>
<tr>
<th>Notation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal text</td>
<td>Normal text font is used for most of the document.</td>
</tr>
<tr>
<td><em>important term</em></td>
<td>Italic introduces new terms, highlights meaningful words or phrases, or distinguishes specific terms from nearby text.</td>
</tr>
</tbody>
</table>
### Conventions Used in This Manual

**Notation** | **Description**
--- | ---
**system command** | This font indicates a system command or command arguments. Enter keywords exactly as shown (that is, do not fill in your own values).

**command, condition and alarm** | Command, Condition, and Alarm references appear on the screen in majenta text. For more information, see the Command Reference Manual, the MPS Developer User Guide, and the Alarm Reference Manual, respectively.

**file name / directory** | This font highlights the names of directories, files, and extensions for file names. It also shows the information that appears on a text-based screen (for example, to show the contents of a file).

**on-screen field** | This font indicates field labels, on-screen menu commands, and action buttons.

**<KEY NAME>** | A term that appears within angled brackets denotes a terminal keyboard key, a telephone keypad button, or a mouse button.

**Book Reference** | This font indicates the names of other publications referenced within the document.

**cross-reference** | A cross-reference appears on the screen in blue. Click the cross-reference to access the referenced location. A cross-reference that refers to a section name accesses the first page of that section.

---

**The Note icon** identifies notes, important facts, and other keys to understanding.

**The Caution icon** identifies procedures or events that require special attention. The icon indicates a warning that serious problems may arise if the stated instructions are not followed implicitly.

**The flying Window icon** identifies procedures or events that apply to the Windows 2000 operating system only.1

**The Solaris icon** identifies procedures or events that apply to the Solaris operating system only.2

---

1. Windows 2000 and the flying Window logo are either trademarks or registered trademarks of the Microsoft Corporation.

2. Solaris is a trademark or registered trademark of Sun Microsystems, Inc. in the United States and other countries.

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### Solaris and Windows 2000 conventions

This manual depicts examples (command line syntax, configuration files, and screen captures) in Solaris format. Windows 2000-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 2000 operating system.
Trademark conventions

The following trademark information is presented here and applies throughout for third-party products discussed within this manual. Trademarking information is not repeated hereafter.

Solaris is a trademark or registered trademark of Sun Microsystems, Inc. in the United States and other countries.

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Java and the Java Coffee Cup Logo are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries.
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MPS Patch Requirements

This chapter covers:

1. Minimum software patch requirements
2. Supported operating systems
Minimum software patch requirements

This section describes the minimum software patch requirements for the Nortel Media Processing Server (MPS) 2.1 systems.

MPS 2.1 Patch Bundle 12 is required for all MPS 2.1 systems (Application Platform AP, Speech Servers, Common Channel Signaling Server CCSS servers and workstation nodes).

Patch bundles are cumulative: each patch bundle includes all patches in the current and previous patch bundles. For more information, see Overview on page 32.

Windows systems (AP, CCSS Session Initiation Protocol (CCSS SIP) and Speech Servers) require Nortel_SelfService Version 3.0.0.3.6 or later to install patch bundles.

MPS 2.1 Solaris patch bundle additions

On Solaris APs, you must install the following patch bundle addition on top of the MPS 2.1 Patch Bundle 12:
- snmp5.5.0.14

Most recent available patches on the Nortel ESPL site

The following procedure describes how to locate and download the latest available patches from the Nortel Enterprise Solutions PEP Library (ESPL).

2. Log on with User ID and Password.
3. On the ESPL log on page, select Click Here.
4. Below MultiMedia PEP Tools and to the right of MultiMedia PEP Search, select Click Here.
5. Select Product, MPS, and Search.
6. Download the required patches.

Supported operating systems

This section describes the operating systems on which support is available for the MPS 2.1.

Support for MPS 2.1 is available on the following operating systems:
- Solaris 8
- Windows 2000
- Windows XP (Developer tools only)

Support for Speech Server is available on the following operating systems:
- Windows 2000
- Windows 2003
Nortel 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 Nortel: This includes resource processing software and patch software.
  Patch bundles, patch bundle additions, 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 Nortel Media Processing Server 2.1 Series Speech Server 6.0.1 Installation Guide and Release Notes (N0023700).

- Software that originates from the vendor: This contains the speech recognition or synthesis resource. Vendor-specific patches are installed with the vendor software on the Speech Server node.


For information about how to install Patch Bundle 12 on a speech server, see Installing Patch Bundle 12 on a Windows speech server on page 21.
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Patch Bundle 12 Installation

This chapter covers:

1. Patch Bundle 12 installation
2. Verifying the patch bundle installation
Patch Bundle 12 installation

You can install Patch Bundle 12 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 MPS, Speech Server, and all MPS workstations.

Patch bundles are cumulative in that each patch bundle includes all patches in all previous patch bundles. For example, if a system runs MPS 2.1 to the level of Patch Bundle 10 and you install Patch Bundle 12, the patches included with Patch Bundle 11 and Patch Bundle 12 are also installed.

Installation Requirements

The following networking requirements are new in Patch Bundle 12 and are mandatory for Windows systems before you install Patch Bundle 12:

• Disable all the network interfaces that are not used.
• Ensure that the Windows hosts file at C:\WINDOWS\system32\drivers\etc\hosts contains an entry for the IP address and host name of every enabled non-Dynamic Host Configuration Protocol (DHCP) network interface.

The following requirement is new in Patch Bundle 12 and mandatory for Solaris 8 systems:
Install the Solaris 8 patch 115831-01 (or later) before you install either dist2.0.0.44, dist2.0.0.50 or Patch Bundle 12 that includes dist2.0.0.44 and dist2.0.0.50.

If you do not install the Solaris 8 patch, the following error message appears on the Apache server:
ld.so.1: httpd: fatal: libuuid.so.1: open failed: No such file or directory

The following sections describe the other requirements before you install Patch Bundle 12:

• Ensure that the person who installs the patch bundle is familiar with MPS and the patching process.
• Nortel recommends that you install the patch bundle on production system in a scheduled maintenance window and that all APs in the system or group (that is, all MPS components, Telephony Media Servers (TMS) and Network Interface Controllers (NIC) in the tms.cfg file) are at the same perirev level.
• Run the Nortel patchprepatch program on the system before you install the patch bundle. Resolve any issues before you install the patch bundle.
• If you install the patch bundle in an N+1 environment, see Installing the patch bundle in an N+1 environment on page 22.
• If you install the patch bundle for an MPS 1000 system, see MPS 1000 AP NIC ATM configuration on page 24 for the tmscomm component vos.cfg file configuration in an Asynchronous Transfer Mode (ATM) or Non-ATM environment.
• Ensure that the patch bundle is already staged on the system to patch before you install the patch.
Obtain the passwords for users peri and root for Solaris nodes and the Administrator password for a Windows node from the customer.

The zagpatch utility is not supported on MPS 2.1 systems.

Installing Patch Bundle 12 on a Solaris MPS AP or workstation

Use this procedure before you install Patch Bundle 12 on a Solaris MPS AP or Workstation:

1. Logon to the system as peri.
2. Change to the root user and enter the command su - root
3. Enter the command csh.
4. Assign the source to /etc/vpsrc.csh.
5. Change to the directory that contains Patch Bundle 12 is located.
6. Stop all MPS services.
7. Run the patchprecheck utility. The patchprecheck checks the system for the following items that cause the MPS patch bundle installation to fail:
   • incorrect Practical Extraction and Reporting Language (PERL) version
   • MPS services that are running
   • incorrect MPSHOME/VPSHOME environment variables
   • MPS processes that are running
8. Before you proceed, ensure that you resolve any issues found by the patchprecheck utility.

Installation

Use this procedure to install Patch Bundle 12 on a Solaris MPS AP or workstation.

1. Ensure Patch Bundle 12 is in the pwd directory.
2. Enter the command ./peripatch to begin the patch installation.
   This step takes 10 to 15 minutes. Check the output for failed or exited messages when the script ends. Inform Global Network Product Support (GNPS) of any failures.
3. Verify that the patch bundle 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 patchbundle</#>
   <#> indicates the previous patch bundle.

If you install Patch Bundle 12 on a system with patch bundle 11 installed, then the output from the command perirev | grep patchbundle11 should display nothing. If earlier patch bundles are listed, then the Patch Bundle 12 installation failed.
Do not continue if any Patch Bundle 11 (or previous patch bundle) entries exist. Inform GNPS before you continue.

5. Install all available Patch Bundle 12 additions by using the `peripatch` command.
   
   `peripatch <pb addition patch list>`
   
   `<pb addition patch list>` is a space-separated list of patches.
   OR
   
   `peripatch 'cat pbadditions'
   
   'cat pbadditions'` generates the list from a file named `pbadditions` that contains one patch name on each line.

   If you are prompted to install prerelease patches, select Yes.

6. Install prerelease patches using the `peripatch` command, for example,
   
   `peripatch <pre-release patch list>`
   
   `<pre-release patch list>` is a space separated list of patches.

   If you are prompted to install the prerelease patches, select Yes.

7. Reboot the node.

8. Repeat this procedure for all APs. When complete, go to Verifying the patch bundle installation on page 22.

### Installing Patch Bundle 12 on a Windows MPS AP or workstation

Use this procedure before you install Patch Bundle 12 on a Windows MPS AP or workstation:

1. Log on to the system as Administrator.
2. Change to the directory that contains Patch Bundle 12.
3. Stop all MPS services.
4. Run the `patchprecheck` utility. 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 MPSHOME/VPSHOME environment variable
   - MPS processes that are running
5. Before you proceed, ensure that you resolve any issues found by the `patchprecheck` utility.
6. Ensure that you meet the networking requirements for MPS products on Windows servers. For details about networking requirements, see Installation Requirements on page 18.

### Installation

Use this procedure to install Patch Bundle 12 on a Windows MPS AP or workstation.
1. From the Explorer window, double-click the patch bundle executable.

   Reboot the system if you are prompted to reboot 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. If you are prompted, reboot the system and install all available Patch Bundle 12 additions by double-clicking each patch executable.

3. Reboot the system.

4. Repeat this procedure for all Windows MPS APs, and then go to Verifying the patch bundle installation on page 22.

Installing Patch Bundle 12 on a Windows speech server

Use this procedure before you install Patch Bundle 12 on a Windows Speech Server:

1. Log on to the system as Administrator.
2. Change to the directory that contains Patch Bundle 12.
3. Stop all MPS services.
4. Run the `patchprecheck` utility. 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 MPSHOME/VPSHOME environment variable
   - MPS processes that are running
5. Before you proceed, ensure that you resolve any issues found by the `patchprecheck` utility.
6. Ensure that you meet the networking requirements for MPS products on Windows servers. For details about the networking requirements, see Installation Requirements on page 18.

Installation

Use this procedure to install Patch Bundle 12 on a Windows Speech Server:

1. From the Explorer window, double-click the patch bundle executable.

   Reboot the system if you are prompted during the installation and upgrade. Do not skip any reboot prompts.

2. Verify that the patch bundle installation was successful.

   Enter the `perirev` command at a command prompt and ensure that no previous patch bundles are listed.

3. If you are prompted, reboot the system and install all available Patch Bundle 12 additions by double-clicking each patch executable.

4. If required, install speech vendor integration packages. For more information, see the Nortel Media Processing Server 2.1 Series Speech

5. Reboot the system.
6. Repeat this procedure for all Speech Servers.

Installing the patch bundle in an N+1 environment

In an N+1 environment, the patch bundle installation must start with a secondary node when it is in a standby state. You must update the secondary or standby node first and then the primary nodes. To install the patch bundle, perform the following steps.

1. Run the `patchprecheck` utility on the secondary node.
   Resolve any failures before you proceed.
2. Install the patch bundle and pbadditions on the secondary node. For instructions, see Installation on page 19.
3. For a Solaris system, stop the Start-up/Recovery Process (SRP) by entering the following command:
   
   /etc/rc3.d/S20vps.startup stop

4. For a Windows system, stop the Nortel MPS Service.
5. Optionally, bring the secondary node down.
6. Run the `patchprecheck` utility on the primary nodes. Resolve any failures before you proceed.
7. Install the patch bundle and pbadditions on all the primary nodes, see Installation on page 19.
8. Restart the primary nodes.
9. 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.
10. Reboot the secondary node.

Verifying the patch bundle installation

After you install the patch bundle, you must verify that you installed the patch bundle correctly.

**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.

**TMS Image reload**

Reload the TMS image by 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 1.3.0.46 or later. If you see any other release number, inform GNPS before you proceed.

For example, the release number can appear as follows:
```
TMS Image String:  <tr><td>Build Identity</td><td align="center">tms_860.elf, Release 1.3.0.53 [07/22/08 04:17:27 PM]</td></tr>
```

**MPS 1000 AP NIC image reload and verification**

For an Solaris MPS 1000, you must reload and verify the Network Interface Controller (NIC) image.

**NIC image reload**

Perform this procedure after you patch all APs.

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 from the `ncd system` command, the heading NIC(P) indicates slot 7 and the heading NIC(S) indicates slot 8.
3. Reset all secondary NICs by using the command `ncd nicbpsreset '<ch#> s <bps#> 0'` where `<ch#>` is chassis number and `<bps#>` is the backplane slot number.
4. Enter the reset command for both NICs on one line. For example, to configure the Secondary NICs in BPS 8, enter the following command:
   ```
   Vsh>ncd nicbpsreset '1 s 8 0'; ncd nicbpsreset '2 s 8 0'
   ```
5. 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.
6. Enter the reset command for both NICs on one line. For example, to configure 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 the NICs by pressing the reset button on the cards. Press the secondary NIC reset button first, and then press the primary NIC reset button.
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 `tms_860.elf` release number is 1.3.0.46 or later. If you see any other release number, inform GNPS before you proceed.

For example, the release number can appear as follows:

```
NIC Image String: <tr><td>Build Identity</td><td align="center">nic_860.elf, Release 1.3.0.53 [07/22/08 03:59:13 PM]</td></tr>
```

For MPS 1000 systems, Nortel recommends that the NIC hardware verification is done after the patch bundle installation. For information about NIC failover testing, see *MPS 1000 NIC failover testing* on page 25.

Final verification steps

After the patch bundle is verified, ensure that you perform the following steps.

1. Verify that the 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 more detail, perform the following verification tests:

**MPS 1000 AP NIC ATM configuration**

**Single Chassis MPS 1000**

ATM is not a supported on 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* on page 25.

To enable the ATM interface, you must connect each NIC ATM fiber optic cable as defined in the *MPS 1000 Hardware Installation and Maintenance Manual* (NN44100-301).

The MPS/NIC software monitors the status of the fiber connections. Failure to correctly connect the fiber optic cable causes the software to generate alarms and the fault affects the behavior of the hardware.
Multi chassis MPS 1000 without ATM

This section defines how to 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.

Failure to disable the ATM monitoring feature results in unnecessary fault alarms generated by the ATM software and the hardware failover and redundancy is affected by the detected fault.

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 you configure the ncd entry in $MPSHOME/tmscommN/etc/vos.cfg to the following for both tmscomm components:

```bash
ncd - - 0 "ncd -n"
```

You must restart the SRP on both tmscomm component nodes and all NICs (four NICs in the case of two chassis). You must restart them for the previous configuration to take effect.

NCD diagnostic commands

Use the following commands to interrogate various attributes of the NIC environment:

Enter the following at the vsh prompt:

- `ncd help <command>` for more details about command usage
- `ncd system`: for details on the overall health of NICs
- `ncd chassisstatus`: for I2C power supply and temperature information, TMS physical status
- `ncd nicbpsreset`: to force the NIC reset
- `ncd nicgetsysmode`: to query NIC mode
- `ncd nicconn`: for a list of NIC connections
- `ncd pllstatus`: to obtain the PLL status from NICs and TMSs
- `ncd pllgetrefsrs`: for 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.

Each NIC reset can affect interchassis configuration clocking. Any chassis that is not defined as a clock source in the sync-list section of the `tms.cfg` file is by default a clock sink. 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 receives 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, 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.

<table>
<thead>
<tr>
<th>Test Case</th>
<th>NIC Backplane Slot and mode</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reset Primary Slot 7</td>
<td>NIC Slot 7 Mode</td>
<td>NIC Slot 8 becomes Primary Controller. A clock is affected in all sink chassis.</td>
</tr>
<tr>
<td>Reset Secondary Slot 7</td>
<td>NIC Slot 8 Mode</td>
<td>NIC Slot 8 is still primary controller. A clock is affected in all sink chassis.</td>
</tr>
<tr>
<td>Reset Primary Slot 8</td>
<td>NIC Slot 7 Mode</td>
<td>NIC Slot 7 becomes primary controller. The B clock is affected in all sink chassis.</td>
</tr>
<tr>
<td>Reset Secondary Slot 8</td>
<td>NIC Slot 8 Mode</td>
<td>NIC Slot 8 remains primary controller. The B clock is affected in all sink chassis.</td>
</tr>
</tbody>
</table>

If all SRP processes are not up or Spans are in an alarm state, there can be adverse effects on this series of tests.

To verify that the NICs and NCD are in a stable state, perform the following procedure.

1. From the TMScomm.# component in a VSH, enter the ncd system command to verify:
   - the number of chassis in system
   - that TMSs are available
   - which NICs are master/slave (should match LED observations)
   - the clock status (errors can occur if TMSs are not yet running).

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 or not-mated status
   - watchdog pass or 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 that are printed on the board next to the LED.
2. Check the 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 contains the following LEDs, from top to bottom.

<table>
<thead>
<tr>
<th>LEDs</th>
<th>Master NIC LEDs</th>
<th>Slave NIC LEDs</th>
<th>Single NIC LEDs (Master without Slave)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVC1</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>NVC0</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>ONVC1</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>ONVC0</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
</tr>
</tbody>
</table>

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 procedure 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 was 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 primary (master).

2. Reset the Secondary controller in chassis 1. There should be no change in the primary controller of any chassis.

   For example: If chassis 1 slot 7 NIC was the secondary controller, resetting it causes the chassis 1 slot 7 NIC to reload. The rest of the NICs should 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 is 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. No change should occur in the primary controller of any chassis.

   For example, if chassis 1 slot 8 NIC is the secondary controller, resetting it causes the chassis 1 slot 8 NIC to reload. The remainder of the NICs should remain in the same state.

For NIC failover testing, perform the following steps on chassis 2.

1. 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).

2. Reset the Secondary controller in chassis 2. No change must occur in the primary controller of any chassis.

For example, if chassis 2 slot 7 NIC is the secondary controller, resetting it causes the chassis 2 slot 7 NIC to reload. The remainder of the NICs must remain in the same state.

3. Reset the Primary controller in chassis 2. This should cause secondary controllers to become primary.

For example, if chassis 2 slot 8 NIC is 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).

4. Reset the Secondary controller in chassis 2. There should be no change in the primary controller of any chassis.

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 must remain in the same state.

Software NIC failover testing

You can optionally perform software NIC failover testing by performing this procedure.

You can run all ncd commands 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 the 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, and <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.
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Updates to MPS 2.1

This chapter covers:
1. Overview
2. New in patch bundles
3. Unsupported features and commands
4. Changed features and commands
Overview

A patch bundle is a collection of patches that are distributed periodically for general availability. Patch bundles contain patches for Nortel Media Processing System (MPS) 2.1.

Patch bundles are cumulative in that each patch bundle includes all patches in all previous patch bundles. For example, if a system runs MPS 2.1 to Patch Bundle 10 and you install Patch Bundle 12, the patches included with Patch Bundle 11 and Patch Bundle 12 are also installed.

New in patch bundles

New in Patch Bundle 12

The following sections describe what’s new in Patch Bundle 12.

Patchprecheck: Network interface checking

The following section describes the patchprecheck utility and details on checking a network interface.

The patchprecheck utility

Use the patchprecheck utility to verify the following criteria before you install Patch Bundle 12 on a system:

- The environment variables MPSHOME and VPSHOME are assigned.
- The correct version of the Practical Extraction and Reporting Language (PERL) is installed.
- All MPS Services and their associated programs are stopped.
- The networking requirements for MPS products are met on Windows servers.

Network Interface checking

To check a network interface, provide the patchprecheck utility with host names of enabled network interfaces that have a static IP address. Do not provide host names of virtual interfaces.

All enabled network interfaces, with an associated static IP address must have a corresponding entry in the Windows operating system hosts file at C:\WINDOWS\system32\drivers\etc\hosts.

To determine if the network interface has a static or dynamic IP address, run the following command at the command prompt on a terminal:

ipconfig /all

Check the value of the Dynamic Host Configuration Protocol (DHCP) parameter Dhcp Enabled. If the value of Dhcp Enabled is No, the enabled network interface has a static IP address. This does not apply to a virtual interface.

Virtual interfaces are those that have IP addresses in the format 0.0.0.0 such as those on terminals that have the Nortel IPSECSHM Adapter installed.
No support for QSIG ISDN user side protocol

Patch Bundle 12 does not support the QSIG ISDN user side protocol.

Support for QSIG ISDN user side protocol was added in Patch Bundle 11. Patch Bundle 12 no longer supports this protocol.

Support for ODBC connectivity to MySQL Enterprise 6.x server in RDB

The MPS Relational Database (RDB) Package supports Open Database Connectivity (ODBC) to MySQL Enterprise 6.x server. It supports basic Structured Query Language (SQL) queries, stored procedures with multiple return parameters, and stored procedures with multiple result sets.

Ensure that you use DataDirect Connect for Release 5.3 of DataDirect ODBC drivers.

Support for a configurable number of versioned backup files in the dlog library

In previous releases, for every dlog file a backup file was created in the dlog library. For example, if the dlog file was rcm.oscar.1.dlog the backup file created was rcm.oscar.1.dlog.bak.

You can now create a configurable number of versioned backup files for dlog files with the new option dlogMaxBackupFiles. The default value is 1. Assign this option using vsh or in the configuration file (similar to other dlog options). A high numbered version pertains to older backups and version number 0 pertains to the most recent version.

For example, if you assign the option dlogMaxBackupFiles to 3, the following versioned dlog back up files are generated:
rcm.oscar.1.dlog.0.bak, rcm.oscar.1.dlog.1.bak, and rcm.oscar.1.dlog.2.bak.

If you assign the value to 1, the backup file created is rcm.oscar.1.dlog.bak not rcm.oscar.1.dlog.0.bak. the backup file does not contain the version number.

VoiceXML: Addition of parameter for VoiceXML Interpreter to close all existing connections for a line

A new parameter allows VoiceXML Interpreter to close all existing connections for a line at the end of a call. Configure the parameter in the file SBClient.cfg as follows:

client.inet.CloseConnections VXIIInteger 1

VoiceXML: Addition of parameter for VoiceXML Interpreter to free stored SSL sessions

A new parameter allows VoiceXML Interpreter to free stored Secure Sockets Layer (SSL) sessions. Configure the parameter as follows:

client.inet.CloseSSLSessions VXIIInteger 1
VoiceXML: Restriction on length of the namelist attribute to 7500 characters

VoiceXML Interpreter now restricts the length of the namelist attribute to a maximum of 7500 characters. The MPS Release Notes describes this restriction.

VoiceXML: Implementation of SSL session reuse

VoiceXML Interpreter can now reuse an SSL session that was created in a previous call.

New PeriPro option -s (for silence mode)

MPS Developer has a new PeriPro option -s for silence mode. Use it with batch options -P for print, -c for convert, and -g for generate.

Specify the -s option with the batch option as follows:

```
peripro -g -s *.ppr
```

Batch operations now occur silently. The -s option changes its behavior so that no new console is created.

If -s is used with other options, the usage error window appears.

Encoding change on the XML Page

A new option InsertEncodingInXMLResult switches encoding inserted in XML on or off. This provides backward compatibility with MPS application processors that have VoiceXML patch level previous to vxml2.3.0.36.

CTI: License handling

If Computer Telephony Integration (CTI) is started without a licence, it can now obtain a licence at run time. CTI then switches from demonstration mode to licensed mode.

CTI: UUI data for G3 switches

CTI supports up to 96 bytes (instead of 32) of User-to-User Interface (UUI) data attached by a switch.

JSB with logging control

Java Services Bridge (JSB) now has logging control, which includes the following features:

- switching logging on or off at run time
- setting log file name
- setting maximum size of log file
- keeping a backup of log file

You can control these features at startup using the JSB configuration file or at run time with the Application Management Utility (AMU). For more information, see the JSB User Guide (N017390).

The output of perirev command now saved in the current directory in Windows

The output of the perirev command (containing reports on all MPS packages, the
Updates to MPS 2.1

release level, and patches installed on a system) is saved in the current directory in Windows.

**New vtcpd option -c**

In the previous release, the remote host connection timeout on vtcpd was a default hard-coded value of 2 seconds. If a remote host answered after a delay of more than 2 seconds, vtcpd failed to establish the connection.

A new vtcpd option -c is now available to change the connection timeout from the default value of 2 seconds when necessary. The description of this option is added to the vtcpd help list. If vtcpd is started without the -c option, the timeout defaults to two seconds.

Use vtcpd with the option -c as follows:

```
vtcpd -c <timeout_value>
```

Vtcpd checks if the new timeout value is equal-to-or-greater-than two seconds. Only then it is used as the host connection timeout.

An incorrect value specified as the timeout value results in a fatal error. The vtcpd does not start and only provides the usage rules for the -c parameter.

**Support for character encoding in VRG files**

All Voice Recognition Grammar (VRG) files now contain character encoding as the first attribute. For VRG files that do not contain the character encoding as the first attribute, select the appropriate encoding with which to open the file when you are prompted. The encoding is applied only after you save the file.

**MPS Manager: Display various states of hosts with SDT and a new state—Host Connected**

The MPS Manager displays three states in red, green, and purple for hosts that have Session Data Traffic (SDT). The protocols are Atte, vpstn3270, and lu6.2 (appc_cm).

It also displays a new state—Host Connected in purple colour in the host status plug-in when session data transfer occurs. The session is in the Host Connected state when VT connects to the remote host.

The MPS displays the following lu statuses for the VT about the connection status:

- **Green Icon**: VT is UP but no connection to the remote host exists.
- **Red Icon**: VT is DOWN.
- **Purple Icon**: VT and SDT are UP and connection to the remote host exists.

Because Geotel does not have an assigned SDT value, only the following two states are available:

- **Red Icon**: VT is DOWN.
- **Purple Icon**: VT and SDT are UP.
The topology tree in MPS Manager shows the physical \texttt{IU} status as purple when the Host Connected state is reflected in Host Status plug-in.

The Host Status window appears.

![Host Status Window](image)

**MPS Manager: Added new Restore Defaults option**

The MPS Manager Data Provider (MMDP) configuration plug-in now has a new Restore Defaults option which restores all MMDP properties to the default values.

On the plug-in, right-click on an MMDP to view the new option.

The default configuration is saved to the \texttt{mmdp.cfg} file when you click \texttt{Save} in the MMDP configuration plug-in. Once the default configuration is restored, the previous configuration cannot be retrieved.

**New in Patch Bundle 11**

The following sections describe what’s new in Patch Bundle 11.

**Registering for Up or Down service state change of the phone line supported**

An application can register to receive line service state change events and get the current line service state. This enables an application to provide the MPS line status to another service (such as a call router) that can use the information in a call routing policy.
For more information about registering for up/down service state change, refer to the following documents:


**Hong Kong ISDN IDAP user side protocol**

Support is now available for the Hong Kong IDAP ISDN protocol according to the HKTA 2015 specification. See the *MPS Series Telephony Reference Manual* (NN44100-113) for configuration details.

**QSIG ISDN user side protocol**

In Patch Bundle 11, support is available for QSIG ISDN protocol according to the ECMA standard 143. See the *MPS Series Telephony Reference Manual* (NN44100-113) for configuration details.

Patch Bundle 12 does not support the QSIG ISDN user side protocol.

**Ascom line-side E1 CAS+ protocol**

Support is now available for the Ascom Line-side E1 CAS+ protocol. See the *MPS Series Telephony Reference Manual* (NN44100-113).

**VoiceXML: Vendor specific recognition properties**

You can now configure vendor specific recognition properties. Assign vendor properties using property tags in the following format:

```xml
<property name="vendor_prefix.vendor_property" value="vendor_value"/>
```

The following table show the supported vendors and the associated `vendor_prefix`.

<table>
<thead>
<tr>
<th>Vendor</th>
<th>vendor_prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuance 8.5</td>
<td>nuance</td>
</tr>
<tr>
<td>OSR</td>
<td>speechworks</td>
</tr>
<tr>
<td>MRCP</td>
<td>mrcp</td>
</tr>
</tbody>
</table>

- `vendor_property`: The string placed here is vendor-specific and is defined in each vendor’s documentation.
- `vendor_value`: The values to assign the property to are vendor-specific and are defined for each `vendor_property` in the vendor’s documentation.

For example, an application can suppress waveform and event logging for SpeechWorks OSR by adding the following lines to the application:

```xml
<property name="speechworks.swirec_suppress_waveform_logging" value="1"/>
```
You must specify the default values for each vendor specific property the VoiceXML application sets. These default values must be in the $MPSHOME/PERIvxml/config/NortelDefaults.xml file.

For example, the default may be for waveform capture and event logging to be turned on. When a vendor-specific recognition property is configured by the application and that property is in scope, it is passed to the vendor software. A VoiceXML application can configure a vendor-specific property to turn off waveform capture and event logs (see the previous example for SpeechWorks OSR). Because the default is to have waveform capture and event logs on, as soon as the property is out of scope, waveform capture and event logs are turned on again.

Allowing the VoiceXML application to assign vendor-specific properties, is off by default. You must add the following line to SBclient.cfg.

```
client.nortel.ivr.rec.recognition.resource.AllowVendorParams VXIInteger 1
```

For more information, see the *MPS VXML Browser User Guide* (N0017392).

**Configure vendor parameter persistence behavior for VoiceXML with OSR resource**

The OSR Integration Shared Library provides the parameter VendorParamPersistence that enables vendor parameters to be saved after they are configured and reused for subsequent recognitions.

The default behavior for the OSR Integration Shared Library and the VoiceXML Interpreter is for vendor parameters to persist (be saved) after they are configured and be reused by the OSR Shared Library for subsequent recognitions. This behavior frees the application from having to configure vendor parameters with the same values before each recognition. After a parameter is configured, the value of the parameter persists across recognitions unless any of the following actions occur:

- the same parameter is configured again.
- the next change label occurs.
- the resource is freed.
- the VendorParamPersistence parameter is off.

The VendorParamPersistence parameter determines if vendor parameter values persist across recognitions or parameter values must be configured before each recognition.

The typical and default behavior is once a vendor parameter is configured, the parameter and value persists across recognitions, unless the application initiates a change or the resource is freed. The application need not configure vendor parameters
previously configured before a recognition, unless the values change. In this case, the VendorParamPersistence is on.

The following example describes a scenario when vendor parameters are configured to persist across recognitions (VendorParamPersistence is set to on).

- Application allocates resource.
- Application configures parameter speechworks.confidence-level 30. The Integration Shared Library saves the parameter and value.
- Application configures parameter speechworks.NBestListLength 10. The Integration Shared Library saves the parameter and value.
- Application requests recognition-start.
- Integration Shared Library configures the parameters that it saved (confidence-level=30, NBestListLength=10) and then starts recognition.
- Recognition 1 result sent to application.
- Application configures parameter speechworks.confidence-level 10. The Integration Shared Library saves the parameter and value.
- Application requests recognition-start.
- Integration Shared Library configures parameters that it saved (confidence-level=30, NBestListLength=10, confidence-level=10) and then starts recognition.
- Recognition 2 result sent to application.
- Application frees resource. The Integration Shared Library clears the parameters it saved.

When the VendorParamPersistence parameter is off, the application must configure vendor parameters before each recognition (even though they were configured for previous recognitions) for those parameters to take effect.

The following example shows the scenario when vendor parameters are configured not to persist across recognitions (VendorParamPersistence is set to off).

- Application allocates resource.
- Application configures parameter speechworks.confidence-level 30. The Integration Shared Library saves the parameter and value.
- Application configures parameter speechworks.NBestListLength 10. The Integration Shared Library saves the parameter and value.
- Application requests recognition-start.
- Integration configures parameters parameters that it saved (confidence-level=30, NBestListLength=10) and then starts recognition.
- Recognition 1 result sent to application.
- Application configures parameter speechworks.confidence-level 10. The Integration Shared Library saves the parameter and value.
- Application requests recognition-start.
- Integration Shared Library configures parameter it saved immediately before the recognition request (confidence-level=10) and then starts recognition.
- Recognition 2 result sent to application.
- Application frees resource. The Integration Shared Library clears the parameters it saved.
The setting for persistence on the Speech Server and Application Processor nodes must match. Unexpected and unpredictable behavior results when these parameter setting do not match. The setting for persistence is configured on the Speech Server and Application Processor nodes.

- On the Speech Server node, you configure vendor parameter persistence with the parameter `VendorParamsPersistence` in the Section `GlobalParameters` of the component-specific `sys-lvr-speechworks.cfg` file. You can assign the parameter only during initialization. You cannot assign this parameter in a Section Label or by the application.

- On the Application Processor node, configure the vendor parameter persistence for VoiceXML applications with the parameter `client.nortel.ivr.rec.recognition.resource.lvr-s.Parameters-Persist` in the `Speechworks Specific Parameters` section of the `$MPSHOME/PERIvxml/config/SBclient.cfg` file to take effect at startup.

To ensure predictable and expected behavior, you must configure these parameters as follows.

- Vendor parameters persist across recognitions. This is the default behavior.
  - If these parameters are either not in the `sys-lvr-speechworks.cfg` and `SBclient.cfg` files or they are in these files but commented out, do nothing. The parameters operate in the default mode.
  - If these parameters are in the `sys-lvr-speechworks.cfg` and `SBclient.cfg` file, and they are uncommented, they must be configured as follows for the parameters to operate in the default mode.
    - Speech Server node: `VendorParamsPersistence on`
    - Application processor node: `client.nortel.ivr.rec.recognition.resource.lvr-s.Parameters-Persist yes`

- Vendor parameters do not persist across recognitions. To configure the vendor parameters for the application before each instance of recognition, you must explicitly set the parameters as follows.
  - Speech Server node: `VendorParamsPersistence off`
  - Application processor node: `client.nortel.ivr.rec.recognition.resource.lvr-s.Parameters-Persist no`

Configuring these parameters inconsistently on the Speech Server and Application Processor node results in unpredictable and unexpected behavior.

These parameters are introduced with patch `sw20r1.0.23`, patch `sw30r1.0.16`
and VoiceXML patch vxml2.3.0.24.

- For OSR 2.0, you must install the following patches:
  - Patch sw20r1.0.23 on the Speech Server node.
  - Patch vxml2.3.0.24 on the Application Processor node.
- For OSR 3.0, you must install the following patches:
  - Patch sw30r1.0.16 on the Speech Server node.
  - Patch vxml2.3.0.24 on the Application Processor node.

**Updates to PeriProducer**

The following items are updated in Patch Bundle 12 for PeriProducer.

**PeriProducer Call Function speak_cid**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Format</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>CID</td>
<td>character</td>
<td>any</td>
</tr>
<tr>
<td>speak_item</td>
<td>character</td>
<td>any</td>
</tr>
<tr>
<td>optional parameters</td>
<td>character</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Convert the argument string into a single speak request with one or more CIDs. The CIDs parameter is a data card or array of data cards that specifies the CIDs to be used, speak_item is a data card or array of data cards that specifies the item to be spoken. The argument string is typically the parent item of a data array. The data array might receive items to speak from a host running in 24-Byte Header mode, although this is not necessary. Multiple elements in a data array (used with a speak-cid request) must be separated by commas. speak-cid has the advantage of processing a data array (folder) as one element. This makes speak-cid efficient for speaking arrays because the entire array of elements can be specified in one request.

speak-cid takes an optional parameter to specify the state of the key pad during the voice output. The possible parameters are as follows:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>freekb</td>
<td>Allow the caller to enter touchtone data during SEND PHONE voice output (key-ahead).</td>
</tr>
<tr>
<td>lockkb</td>
<td>Disable key-ahead for the current SEND PHONE.</td>
</tr>
<tr>
<td>leavekb</td>
<td>Disable key-ahead until it is specifically enabled.</td>
</tr>
</tbody>
</table>

You can force the application to suspend execution until the voice output finishes, by specifying the optional parameter wait.

You can override The Speak As type for an element in the speak request. Specify the element with the syntax @F<elementname> where F is the speech format and elementname is the name of the element to speak. F can be one of the following:
@@M<12.34 means "speak 12.34 as money."
@@N<abcd means "speak abcd as nonconversational."

When using the date and time formats, do not include a space after the left angle bracket symbol. For example @@T<1414 means "speak 2:14 PM as time."

You can use a Compute block to initialize the data card.

Then call speak-cid and supply any desired options.

The Regenerate and Link menu command in the Execute menu

Use Regenerate and Link when linked files are modified or generated. The Link command incorporates no modified linked files if the main application was not modified. Use Regenerate and Link if you are unsure which application (main or linked) was modified.

The PeriGEM Run option performs the Regenerate and Link operation before starting to simulate the application execution.
Vocabulary Manager

In the Vocabulary Management window, if the Export/Stub Prefix has a value and you select either Export TBDs or Create Vocabulary Stubs you receive a prompt to use the entered Prefix. The options available are YES, NO, and CANCEL.

If you select YES and Create Vocabulary Stubs is selected, the file is created or added with the item names. If you select YES and Exporting TBDs, .mmf files are written using the Prefix. The prompt window closes.

If you select NO, the result is the same as selecting Yes except the Prefix is not used. The prompt window closes.

If you select CANCEL, the prompt message box closes.

PeriProducer -R option

If you start PeriPro with option -R, the file vengine.trc is written for debugging when you run the application in simulated mode. The location of the file is the same as the location of the active application.

Modified behavior of Prompt Dialog

The Prompt dialog box is used to specify phrases to be spoken in blocks (such as Speak and Read) and is modified as follows:
- Changing the Speak option to TTS Literal, URL Literal, or Vocabulary Item maintains the value in the Phrase field.
- If the Speak option changes to Data Card, the Phrase field is cleared.
- If a prompt is added to the list and you click the CANCEL button, a confirmation dialog box appears.

Opening a .ppr File

If you double click a .ppr file in Windows Explorer, PeriProducer starts and the .ppr file opens.

Updates to Commgr

The following items are updated in patch bundle 11 for Commgr.

Command to Obtain VT from a Pool in Pooled Mode

Use the getvt command to allocate a Virtual Terminal (VT) from the pool. The getvt command applies only when the host is configured to be a pooled host (see commgr.cfg file). Use the getvt command from the command line to enable you to allocate the VT for debugging purposes.

You cannot issue send or read commands before you allocate the virtual terminal from the pool when the host is configured as a pooled host.

Example:
host # svcid # getvt poolname

Command to Read Data Directly from VT

Use the `readvt` command to read data directly from the virtual terminal. This is an alternative to the `read` command and it requires that you specify a service identifier.

The `readvt` command displays the current screen that is stored by the communications protocol that is sent to, or received from the host.

Example:

host # vt # readvt

Unsupported features and commands

This MPS release does not support the following operations.

**N+1 MPS redundancy features in CCTIVR**

Patches `cti2.1.93` and `cti2.1.0.94` in Patch Bundle 12 introduced the N+1 MPS Redundancy feature in the Communication Control Toolkit Interactive Voice Response (CCTIVR) to preserve connections from Integration Package for Meridian Link (IPML) server to an MPS AP if the AP fails.

The following features are not supported and must be ignored:
- the `vpsstandbyhost` option in `csvapi.cfg`
- the new v-shell command `csvapi show mpsconnlist`
- the line in `csvapi.log` stating that IPML MPS redundancy is supported

**Call Protect features in PeriProducer**

Patch `ppro3.00.14` in Patch Bundle 9 introduced the following Call Protect features in PeriProducer, which are not supported and must be ignored.

- `CallProtectStart` datacard in the System Folder.
- `PeriGEM Call Protect` checkbox.
- While an application is running under PeriGEM, typing `vemul` in the text entry area displays:
  ```
  setcallprotectplatform {t | f} to set the call protect platform.
  ```

If, after you apply the patch `ppro3.00.14`, you need to modify and recompile a component vex file of a vexlinked application, you must also recompile all other component vex files within the vexlinked application before relinking. This is necessary to ensure the system folder is the same in each component vex file prior to linking.

**No implicit allocation for playing resources**

The current release of MPS 2.1 does not support implicit allocation for resources that play prompts. This issue applies to text-to-speech (TTS) and Internet Audio Server.
resources.

Solution:
Explicitly allocate (Get) the appropriate TTS or Internet Audio Server resource before you use it to play a prompt.

**Converted PeriPro 2.3 applications that change labels between prompts**

MPS 2.1 does not support changing labels for LVR (speech recognition) resources between prompts that start the recognizer (Accept Input/Speech During the prompt). Prompts that start recognizer should lead to a GetInput request without sending an additional setting to the LVR resource.

VPS/is 5.X can accommodate a Change Label operation between prompts that start the recognizer (Barge-in on: the box Stop speaking if caller presses a key is checked in the Speak block) because of the barge-in implementation. In that case, recognition was stopped with the Change Label request and was started with the next prompt that started the recognizer.

However, it is important to follow good programming practice and perform a Change Label operation before the first prompt that starts the recognizer. (It is poor practice to use a Speak block that starts the recognizer followed by a Change Label operation.)

Solution:
Workaround for Converted Applications:
If a PeriProducer 2.30 application changes labels between prompts that start the recognizer, then perform the following:

- Convert the application from PeriProducer 2.3 to 3.0.
- Modify the application to send the change label request before the first prompt that starts the recognizer.

**Changed features and commands**

This section describes the changed features and commands for Patch Bundle 12 and previous patch bundle releases.

**Patch Bundle 12 changed features and commands**

The following sections describe the changed features and commands for the Patch Bundle 12.

**MPS Manager: Physical command removed**

The Physical command is now removed from all the lowest level menu selections.

When the topology tree in the MPS manager expands as Domain, Node, Components, MPS menu, and Physical, all lowest level physical processes, namely vos processes, lines, and spans, appear. The Physical command is removed because
no physical components for low level processes, exist.

**Corrected the actual start of speech validation period**

The actual start of speech validation period is corrected for applications that perform concurrent speech recognition and dtmf input when the following conditions are true:
- the start of the speech validation period (sosvalidation) is nonzero
- the Touch Tone validation (dtmfguard) is on

The ccm then calculates the actual start of the speech validation period as the start of the speech validation period (sosvalidation) plus the non-indial touchtone guard timer value (dtmftonedur).

If the caller enters dtmf digits and they are not identified by the MPS as dtmf input, then modify the ccm parameters as follows:
- Increase sosvalidation period value.
- If dtmf digits are not detected, then reduce the dtmftonedur setting.

**Changed path sequence logic for report generated by MPS Reporter**

Run the following command to generate a report by MPS Reporter:

```
perireporter -b -ex full_path_to_prd_config_file -sdate mm/dd/yyyy -edate mm/ dd/yyyy
```

The following sections detail the path sequence logic that MPS Reporter uses to generate reports in Patch Bundle 11 (and earlier). It also describes the changed path sequence logic for Patch Bundle 12 (and later):

**Path sequence logic for Patch Bundle 11 (and earlier):**

1. Generate the report using the output file name (specified using the -o parameter), in the output file directory.
2. If the output filename is not specified or is not writable, create the report in the directory for *.prd files (the configuration files for the report structure).
3. If the preceding attempts fail, create the report in the current directory.
4. If all the preceding attempts fail, create the report in the home directory.

**Path sequence logic for Patch Bundle 12 (and later):**

1. Generate the report using the output file name (specified using the -o parameter), in the output file directory.
2. If the preceding attempt fails, use the current directory.
3. If the preceding attempt fails, use the home directory.
4. If all the preceding attempts fail, use the temp directory.

The *.prd file directory is excluded from the path sequence.

**VoiceXML: VoiceXML flushes digits entered prior to a prompt with bargein=false**

VoiceXML applications now flush extra dual tone multi frequency (DTMF) digits
entered by a caller, prior to a prompt with bargein=false. These digits are not provided along with the next input request.

All VoiceXML applications that have bargein=false must flush the extra DTMF digits input entered by a caller prior to a prompt. This does not apply to application vex in MPS Developer.

**Patch Bundle 10 changed features and commands**

This section details the changed features and commands in Patch Bundle 10:

**MPS 2.1 systems configured with internet audio server and TTS resources**

This section applies to the MPS 2.1 speech-enabled systems that use text-to-speech and Internet Audio Server resources and when the system (backplane) coding law is assigned to alaw for either T1 or E1 configurations.

This issue applies only to systems configured with DCC-3000 boards in the MPS cluster or a combination of DCC-3000 and DCC-2000 boards in the MPS cluster. See **DCC board configuration in the MPS Cluster** on page 48.

Before release MPS 2.1 patch bundle 10, patch bundle addition tms1.3.0.44 and PERIausvr1.1.0.25, you could hear audible clicks at the beginning and end of the audio streams. You could also hear audible clicks when the system (backplane) coding law is assigned to alaw and

- an Internet Audio Server plays audio files
- a text-to-speech resource plays synthesized text

These audible clicks are eliminated with MPS 2.1 patch bundle 10 and patch bundle addition tms1.3.0.44 (which adjusts the behavior of the TMS on the MPS Application Processor node) and PERIausvr1.1.0.25 (which adjusts the behavior of the Internet Audio Server on the Speech Server node). The software performs the coding law conversions.

This change affects both system (backplane) coding law and netlaw coding law in the MPS cluster.

The Coding law is set with the following parameters in the tms.cfg file on the MPS Application Processor node:

- System (backplane) coding law is set with the SYS_coding_law parameter.
- Netlaw coding law is set with the SYS_NETCODINGLAW parameter.

To implement this solution, you must perform the following steps:

1. Stop Start-up/Recovery Process (SRP) on all nodes where software is installed.
2. Install patch bundle 10 on the MPS and Speech Server nodes.
3. Install patch bundle addition tms1.3.0.44 on the MPS nodes.
4. Install PERIausvr1.1.0.25 on the Speech Server nodes where existing Internet Audio Server resources reside.
5. Configure the tms.cfg files in the MPS cluster to set system coding to ulaw and set netlaw appropriately.
6. Delete files from cache directories on the Internet Audio Server nodes.
7. Reconfigure resource-specific coding law parameters on Speech Servers associated with the MPS cluster to match the ulaw system coding.
8. Restart SRP on all nodes where software is installed.

For a detailed description of the preceding procedure, see the table Eliminate audible clicks on page 49.

- In the case of an MPS 500, stop SRP on the Application Processor node, perform all changes, and then, initiate SRP on the node.
- In the case of an MPS 1000 cluster, stop SRP on all Application Processor nodes in the MPS cluster, perform all changes, and then, restart SRP on all Application Processor nodes in the cluster.

If you choose not to implement this procedure and configure the system backplane coding to alaw, be aware that clicking can be heard when an Internet Audio Server plays audio files and when a text-to-speech resource plays synthesized text. In this case, ensure that resource-specific settings for coding law parameters are consistent with the backplane set to alaw.

For additional information about installing software, see the following documents:

- Installing MPS 2.1 Software on a Windows Platform (P0607270)
- Installing MPS 2.1 Software on a Solaris Platform (P0602568)
- MPS 2.1 Speech Server 6.0.1 Installation Guide and Release Notes (N0023700)

For information about the MPS Application Processor node, see the MPS 2.1 System Reference Manual (P0602477).

For more information about setting resource-specific coding law parameters, see the vendor-specific MPS Speech Server Resource Guides.

**DCC board configuration in the MPS Cluster**

This solution applies only when MPS nodes in the cluster are configured either with all DCC-3000 boards or a combination of DCC-2000 and DCC-3000 boards. Audible clicks are not an issue in an MPS cluster configured only with DCC-2000 boards.

- For DCC-2000 systems, backplane law and netcoding law must be set identically (all alaw or all ulaw).

  In the case of a system with both DCC-2000 and DCC-3000 in the MPS cluster, and net law is set to alaw, audio clicks occur because you can not set backplane law to ulaw.

- For DCC-3000 systems, backplane law and netcoding law can be set independent of one another.

Use the following table to determine the effect of coding law settings in MPS clusters...
Updates to MPS 2.1

configured with DCC-2000 and DCC-3000 boards.

<table>
<thead>
<tr>
<th>Coding Law</th>
<th>Backplane law</th>
<th>ulaw</th>
<th>ulaw</th>
<th>alaw</th>
<th>alaw</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netcoding law</td>
<td>ulaw</td>
<td>alaw</td>
<td>alaw</td>
<td>ulaw</td>
<td></td>
</tr>
<tr>
<td>DCC card combinations</td>
<td>DCC-3000 only</td>
<td>support with audio improvement</td>
<td>support with audio improvement</td>
<td>support as in previous release</td>
<td>support as in previous release</td>
</tr>
<tr>
<td></td>
<td>DCC-3000 and DCC-2000</td>
<td>support with audio improvement</td>
<td>invalid configuration</td>
<td>support as in previous release</td>
<td>invalid configuration</td>
</tr>
<tr>
<td></td>
<td>DCC-2000 only</td>
<td>support as in previous release</td>
<td>invalid configuration</td>
<td>support as in previous release</td>
<td>invalid configuration</td>
</tr>
</tbody>
</table>

Eliminate audible clicks

Use the following table to guide you through the process to eliminate audible clicks during Internet Audio Server and text-to-speech resource plays.

Eliminate audible audio clicks with MPS 2.1 Patch Bundle 10 Sheet 1 of 4

<table>
<thead>
<tr>
<th>Node</th>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPS</td>
<td>1</td>
<td>Stop SRP on all MPS Application nodes in the MPS cluster.</td>
</tr>
<tr>
<td>MPS</td>
<td>2</td>
<td>Install patch bundle 10 and patch bundle addition tms1.3.0.44 on all Application Processor nodes.</td>
</tr>
<tr>
<td>MPS</td>
<td>3</td>
<td>Assign the system (backplane) coding law to ulaw. Edit the tms.cfg files and assign the system coding law as follows:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PARAM SYS_coding_law = ulaw</td>
</tr>
</tbody>
</table>
Eliminate audible audio clicks with MPS 2.1 Patch Bundle 10 Sheet 2 of 4

<table>
<thead>
<tr>
<th>Node</th>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 4    |      | Netlaw coding is in the `tms.cfg` file.  
      |      | Netlaw is defined in the `tms.cfg` file as follows:  
      |      | ```PARAM SYS_NETCODINGLAW```  
      |      | Two cases of netlaw settings exist: (span type-based or non-span type-based).  
      |      | • Case #1: Netlaw is based on span type.  
      |      |   • A T1 span uses netlaw of `ulaw`.  
      |      |   • An E1 span uses netlaw of `alaw`.  
      |      | All conversions are based on the backplane law and netlaw based on span type.  
      |      | In `tms.cfg` file, comment out the `PARAM SYS_NETCODINGLAW` (precede the parameter with a comment (`;`) character as in the following example.  
      |      | `;PARAM SYS_NETCODINGLAW = DEFAULT_NETLAW`  
      |      | • Case #2: Netlaw is not based on span type.  
      |      |   • A T1 span uses netlaw of `alaw`.  
      |      |   • An E1 span uses netlaw of `ulaw`.  
      |      | All conversions are based on the backplane law and netlaw defined in `tms.cfg` file.  
      |      | In `tms.cfg` file, assign the parameter `SYS_NETCODINGLAW` as follows.  
      |      | • If T1 span uses a netlaw of `alaw`:  
      |      | `PARAM SYS_NETCODINGLAW = alaw`  
      |      | • If E1 span uses a netlaw of `ulaw`:  
      |      | `PARAM SYS_NETCODINGLAW = ulaw`  
      |      | In case #2, the netlaw setting applies to the MPS cluster. All spans in the MPS cluster are configured with same netlaw assigned in `tms.cfg` files.  
| 5    |      | If a TPM card is present, assign the coding law in the following `/tftpboot/tp*.ini` file to match the system backplane `ulaw` setting in the `tms.cfg` file. (System backplane law was assigned to `ulaw` in Step 3.)  
      |      | Depending on the type of TPM card, edit one of the following files: `tp200.ini`, `tp800.ini`, `tp1100.ini`.  
      |      | Assign the parameter as follows: `PCMLAWSELECT = 3`  
| 6    |      | Restart SRP on all MPS Application Processor nodes in the MPS cluster.  

## Eliminate audible audio clicks with MPS 2.1 Patch Bundle 10 Sheet 3 of 4

<table>
<thead>
<tr>
<th>Node</th>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech 1</td>
<td>1</td>
<td>Install MPS 2.1 patch bundle 10 on all Speech Server nodes in the MPS cluster.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- For Internet Audio Server nodes, perform Step 2.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- For OpenSpeech Recognizer, Nuance, Vocalizer, and FAAST nodes, follow Step 3.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- For any other Speech Server node, stop SRP, install PB 10, start SRP.</td>
</tr>
</tbody>
</table>

2 Applies to Internet Audio Speech Server Nodes:

On all Speech Server nodes associated with the MPS cluster where Internet Audio Server resources reside, install patch bundle 10 and the `PERIausvr1.1.0.25`, and delete the IAS cache.

For information about the IAS cache, refer to the *MPS Speech Server 6.0.1 Internet Audio Server 1.1.0 Resource Guide*.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2a</td>
<td>Stop SRP before you install any software.</td>
</tr>
<tr>
<td>2b</td>
<td>Install MPS 2.1 patch bundle 10.</td>
</tr>
<tr>
<td>2c</td>
<td>Install <code>PERIausvr1.1.0.25</code>. You need not uninstall an existing version of <code>PERIausvr</code>.</td>
</tr>
<tr>
<td>2d</td>
<td>Delete all files from the Internet Audio Server cache.</td>
</tr>
<tr>
<td></td>
<td>The directory where cache files reside is specified in the <code>vxmld.ausvr.cfg</code> file for each Speech Server component. The default directory is set to: <code>C:\Program Files\Nortel\SelfService\oscar&lt;n&gt;\cache</code>, where <code>oscar&lt;n&gt;</code> represents the component number.</td>
</tr>
<tr>
<td></td>
<td>You can perform this step only when the Internet Audio Server is not running. To delete files from the cache later, and the Internet Audio Server is running, you must stop the IAS, delete the cache files, and restart IAS as follows:</td>
</tr>
<tr>
<td></td>
<td>- Stop IAS issue command in a vsh prompt on the IAS node:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Delete cache files.</td>
</tr>
<tr>
<td></td>
<td>- Start IAS issue command in a vsh prompt on the IAS node:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>2e</td>
<td>Restart SRP.</td>
</tr>
</tbody>
</table>

3 This step applies to the speech resources that require coding law configuration. These resources include OpenSpeech Recognizer, Nuance, Vocalizer, and FAAST.

On all Speech Server nodes associated with the MPS cluster and provide OpenSpeech Recognizer, Nuance, Vocalizer, or FAAST speech resources, set resource-specific parameters that define coding law to be consistent with the system (backplane) `ulaw` setting in the `tms.cfg` file.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3a</td>
<td>Stop SRP before you install any software.</td>
</tr>
<tr>
<td>3b</td>
<td>Install MPS 2.1 patch bundle 10.</td>
</tr>
</tbody>
</table>
DtmfToneDur duration accuracy corrected
This applies when you upgrade from MPS 2.1 Patch Bundle 9 or a previous patch bundle. In previous releases, when DtmfGuard was turned on to enable touch tone extended time verification, the actual verification was approximately eight times shorter than the DtmfToneDur setting.

The system limited the minimum duration to not go below approximately 40ms.

If applications require the shorter behavior, a new ccm vsh option oldDtmfToneDur is available which you can turn on to revert back to the old behavior. This option is off by default.

---

<table>
<thead>
<tr>
<th>Node</th>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 3c   |      | For OpenSpeech Recognizer Speech Server nodes, assign the following parameters in the C:\Program Files\SpeechWorks\OpenSpeech Recognizer\config\Baseline.xml file.  
• swirec_audio_media_type audio/basic;rate=8000  
• swiep_audio_media_type audio/basic;rate=8000  
For additional information about the OSR resource, see the MPS Speech Server 6.0.1 OpenSpeech Recognizer 2.0.x Resource Guide or the MPS Speech Server 6.0.1 OpenSpeech Recognizer 3.0.x Resource Guide. |
| 3d   |      | For Nuance Speech Server nodes, precede the following parameter with a comment character (;) in the %NUANCE%\data\nuance-resources.site file.  
• ;audio.Format 8k-8bit-alaw  
For additional information about the Nuance resource, see the MPS Speech Server 6.0.1 Nuance 8.x Resource Guide. |
| 3e   |      | For Vocalizer Speech Server nodes, assign the following parameter on the vocalizer command line in the component-specific gen.cfg file on the Speech Server node.  
-encoding ulaw  
For additional information about the Vocalizer resource, refer to the MPS OSCAR 6.0.1 Vocalizer 3.0.x Resource Guide. |
| 3f   |      | For FAAST Speech Server nodes, assign the following parameter in the sys-extts-faast.cfg file on the Speech Server node.  
Encoding MULAW  
For additional information about the Faast resource, see the MPS OSCAR 6.0.1 FAAST 5.2 Resource Guide. |
| 4    |      | Restart SRP on all Speech Server nodes where you installed software or edited files. |
This option appears in vsh c<n> repSvrParams report, if it is on.

**Patch Bundle 9 changed features and commands**

The following section details the changed features and commands for Patch Bundle 9.

**MelCas protocol on MPS corrected in Patch Bundle 9**

Patch bundle 9 addresses inconsistencies when the MPS is configured to run the MelCas protocol connected to a LineSideE1 M1 card. Existing sites that run the MelCas configuration break when you install Patch Bundle 9. Support is no longer available for versions of this configuration prior to Patch Bundle 9.

**Solution:**

On Solaris based systems, copy the

```
/opt/vps/PERItms/site-cfg/melcas_proto.cfg
```

to the

```
/opt/vps/common/etc/tms
```
directory. No changes are needed in the tms.cfg file. Restart the system.

Modify the M1 switch as follows:

1. Connect a vt100 terminal to the LEI card
2. At the LEI prompt, type L to log on.
3. At the password prompt, type LEILINK
4. Type S M to Set Mode
5. Select 2 for Table and assign the bit settings as follows:
   
   **Table 1**
   
   **IDLE SEND:** 1101
   **IDLE RECEIVE:** 1101
   **BLOCKING RECEIVED enabled? (Y/N):** N
   **Incoming call RINGER-ON SEND:** 1011
   **Incoming call RINGER_OFF SEND:** 1001
   **Incoming call OFFHOOK RECEIVE:** 0101
   **Incoming call CONNECTED SEND:** 0101
   **Incoming call (Far End) DISCONNECT SEND:** 1101
   **Incoming call (CPE) DISCONNECT RECEIVE:** 1101
   **Outgoing call SEIZE RECEIVE:** 0101
   **Outgoing call SEIZE ACK SEND enabled? (Y/N):** N
   **Outgoing call DIAL MAKE RECEIVE:** [no change]
   **Outgoing call DIAL BREAK RECEIVE:** [no change]
   **Outgoing call ANSWERED SEND:** 0101
   **Outgoing call (CPE) DISCONNECT RECEIVE:** 1101
   **Outgoing call (Far End) DISCONNECT SEND:** 1101
   **Disconnect Time (0 to 4000 ms):** [no change]
   **Intercall Time (0 to 2000 ms):** [no change]

6. The LEI prompt should be visible on your screen again.
Oracle native on Windows to Oracle through ODBC

When you upgrade ORACLE client software version from 8.0.x to any of client ORACLE releases 8.1.x, 9.x.x, and 10g, deploy red2.0.9 patch (PB9) and use ODBC, specifically Microsoft’s DSBC system driver for ORACLE. Then, in all PerProducer native ORACLE applications, visit all SQL blocks marked for RDBMS set to ORACLE and change RDBMS to ODBC. The SQL block server field must be assigned to the DSN (Data Source Name) that you configured using the ODBC Data Source administrative wizard. These are the only two changes required to all SQL blocks contained in the application.

PERItlkt Q.931 new behavior for facility IE Octet 3 extensions

This applies to ISDN q931 upgrade from MPS 2.1 PB08 (20020319) or prior patch bundle. In earlier releases, applications using the PERItlkt Q.931 Element Get container to retrieve the facility IE data could incorrectly receive octet 3 extension bytes in the chPDU data card ahead of the PDU data.

This was corrected in MPS 2.1 PB09 and tltkt1.0.0.6 prerelease patch to return the octet 3 extension bytes that were extended using the bit 8 extension method in the chOctet3Ext data card, and not in the chPDU data card. Applications that compensate for the earlier behavior now fail and you must update them.

If an issue occurs with facility processing after the upgrade, as a temporary measure to run the older applications, replace the call function library libq931.so or libq931.dll such that the applications link with the earlier one. The location of the call function library an application links to, is specified in each application's configuration file.

The applications should be corrected to process the first hexadecimal character pair of the chPDU field as the component tag type. In an early sample application, all that was required was to remove the work.FacilityData.FacilityFolder.ServiceId data card. It preceded the Invokecomptype component tag data card which alters the remainder of the processing off by a hexadecimal character pair (ISDN octet).

PERItlkt Q.931 element GetByPos not supported

In MPS 2.1 PB09 and prior patch bundle the PERItlkt Q.931 Element GetByPos and the Generic IE GetByPos containers had intermittent problems. These now return status ErrInternal. Use Element Get Container to get the specific element desired.

Other changed features and commands

Convert alaw Files

For Internet Audio Server (IAS) resources in an MPS 2.1 environment, beginning with the release of PERIausvr1.1.0.25, the IAS resource can convert and play a-law files. After you install PERIausvr1.1.0.25 on the Internet Audio Server node, the following A-law Module configuration section is included in the default vxmdl.ausvr.cfg file.
In the case of existing Internet Audio Server resources, where you upgrade from a previous PERIausvr package to PERIausvr1.1.0.25, you must manually copy the following section:

```
! A-law Module
!
define_module_convert=alaw
alaw_input=audio/x-alaw-basic
alaw_suffix=alaw,al
@SunOS alaw_object=libvxmod_alaw.so
@Win32 alaw_object=vxmod_alaw.dll
alaw_entry=alaw_hook
```

- from: %AUSVR_HOME%/etc/vxmld.ausvr.cfg
- to: %OSCARHOME%/oscarN/etc/vxmld.ausvr.cfg

If you perform a new installation of an Internet Audio Server resource with PERIausvr1.1.0.25 (no previous version of the Internet Audio Server existed on the node), the vxmld.ausvr.cfg file contains the A-law Module.

The following table summarizes this procedure.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stop SRP on the Internet Audio Server node.</td>
</tr>
<tr>
<td>2</td>
<td>Install PERIausvr1.1.0.25. You need not uninstall an existing PERIausvr package.</td>
</tr>
<tr>
<td>3</td>
<td>For existing IAS installations only, copy the entire section titled ! A-law Module</td>
</tr>
<tr>
<td></td>
<td>• from: %AUSVR_HOME%/etc/vxmld.ausvr.cfg</td>
</tr>
<tr>
<td></td>
<td>• to: %OSCARHOME%/oscarN/etc/vxmld.ausvr.cfg</td>
</tr>
<tr>
<td>4</td>
<td>Start SRP on the Internet Audio Server node.</td>
</tr>
</tbody>
</table>

For additional information about the vxmld.ausvr.cfg file, see the MPS Speech Server 6.0.1 Internet Audio Server 1.1.0 Resource Guide (N0015786). For more information about installation procedures, see the MPS 2.1 Speech Server 6.0.1 Installation Guide and Release Notes (N0023700).

**Move Component command**

For example, after the mvcmp command performs common tasks for moving any type of component, such as updating vpshosts, stats, and renaming the component directory.

Component types, such as OSCAR and various speech vendors require additional updates for certain configuration files when the component number changes.
For example after mvcomp moves an OSCAR ausvr component, you must manually update the component number in the %MPSHOME%/oscarN/etc/gen.cfg (vxml line) %MPSHOME%/oscarN/etc/vxmld.ausvr.cfg (cache directory lines).

For information specific speech vendors customizations, see Speech Server documentation.

**New MMF say-as type added for VoiceXML applications**

VoiceXML applications can now speak digits as account numbers. This is accomplished via the new MMF type, acctnum.

The initial value of the acctnum variable expression attribute is of the form N where:

\[ N = \text{numeric digit} \]

The acctnum class inserts pauses at specific locations in the stream of digits being spoken. For example if a nine digit account number is spoken and a pause is required after the third and sixth digits then use the following class value: acctnum:3:3:. In this case the first three digits are spoken as digits followed by a pause, then the next three digits are spoken as digits, followed by a pause, and finally the last three digits are spoken as digits.

Defaults ensure that the only class value required is acctnum. In this case, the specific locations to insert the pauses is not specified. The system, in this case, automatically inserts the pauses based on the length of the account number spoken. The following table summarizes the default behavior:

<table>
<thead>
<tr>
<th>Account number length</th>
<th>Default pause insertions</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>After the 4th and 8th digits</td>
</tr>
<tr>
<td>15</td>
<td>After the 4th and 10th digits</td>
</tr>
<tr>
<td>16</td>
<td>After the 4th and 8th digits</td>
</tr>
<tr>
<td>Any length other than the 3 above</td>
<td>No pauses are inserted and the account number is spoken as digits</td>
</tr>
</tbody>
</table>

Class values applicable to the acctnum variable are:

```
acctnum
acctnum:X:
acctnum:X:Y:
acctnum:X:Y:Z:
acctnum:W:X:Y:Z:
```

W, X, Y, and Z represent locations to insert a pause in a stream of digits that are replaced by actual numbers greater than or equal to 1.
Although the preceding values show a maximum of four pauses, no maximum exists and the programmer can configure as many pauses as necessary.

In the expression value only the colon (:) can be used as a separator.

Examples:

```
<var name="creditcard" expr="1234567890123456"/>
<prompt>
Your account number is <value expr="creditcard" class="acctnum:4:4:4:" mode="recorded"/>
</prompt>
```

The ellipses (...) in the previous examples represent a pause.

<table>
<thead>
<tr>
<th>Expression value</th>
<th>Class value</th>
<th>Spoken output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1234567890123456</td>
<td>acctnum</td>
<td>one two three four...five six seven eight...nine zero one two...three four five six</td>
</tr>
<tr>
<td>5551212</td>
<td>acctnum:3:</td>
<td>five five...one two one two</td>
</tr>
<tr>
<td>6315551212</td>
<td>acctnum:3:3:</td>
<td>six three...five five...one two one two</td>
</tr>
<tr>
<td>123456789</td>
<td>acctnum:3:2:</td>
<td>one two three...four five...six seven eight nine</td>
</tr>
<tr>
<td>123456</td>
<td>acctnum</td>
<td>one two three four five six</td>
</tr>
<tr>
<td>123456789</td>
<td>acctnum:4:6:5:</td>
<td>one two three four...five six seven eight nine</td>
</tr>
<tr>
<td>1234567890123456</td>
<td>acctnum:1:11:</td>
<td>one...two three four five six seven eight nine zero one two...three four five six</td>
</tr>
</tbody>
</table>

**Tab added to IPML Config Utility**

A generic option tab is added to the IPML Config Utility to allow optional configuration parameters when you use PeriView.

**Terminate Dialog block added to VoiceXML toolkit**

The Terminate Dialog block (represented in the following diagram as a pistol) is added to the VoiceXML toolkit. The Terminate Dialog block is used when the application waits in the Invoke Dialog block and exits that block due to a condition or event. In whichever handler the application is in, the Terminate Dialog block runs and then the application should use a resume connector to return to the Invoke block (which then finishes after the terminate is processed by vxmli). This ensures the data cards passed into the Invoke block are properly filled in.
The Terminate block contains the following fields:

- **CID** : The connection identifier to terminate. Typically this is set to the data card, `System.DefaultCID`.
- **Send Application Data** : Application data that is made available to the VoiceXML dialog. This data must be in AVS format created by using ToAVS on a data folder. Each data card in the folder is available to the VoiceXML dialog in the session variable `com.nortel.ivr.appaccept.appdata`.
- **Immediate (T/F)?** : Immediate, if set to true, causes any operation (such as play and receive input) in progress by the VoiceXML dialog to abort. If the value is set to false, any operations in progress can finish before the dialog closes.

**Speak block and LVR resources**

You can program multiple Speak blocks so that the input resources cycle **on** and **off** from one prompt play to the other. For example, if three Speak blocks are programmed as follows:

- **Accept input after prompt** (LVR and DTMF **off** during the prompt and **on** after the prompt)
- a second prompt occurs with **Accept input during/after prompt** (LVR and DTMF **on** during and after the prompt)
- and, the third set the same way as the first prompt **Accept input after prompt** (LVR and DTMF **off** during the prompt and **on** after the prompt)

These three Speak blocks disable the input resources (turn **off**) at the start of the third
prompt and re-enabled (turned back on) at the end of the third prompt.

This implementation of the Speak block causes the recognizer to cycle ON and OFF and produces unpredictable behavior, which sometimes results in one of the following conditions:

- The recognizer is OFF when the next input is requested.
- The MPS expects that the OSCAR has a result ready, when in fact it does not.

Solution:

Make sure that after you enable an input device, specifically an LVR resource, that the resource state is unchanged by the subsequent Speak blocks until the application requests the caller’s input.

Therefore, in the previous example, code the three prompt plays as follows (depending on the intent of the application):

- If the intent is to enable the input devices after the last prompt play without barge-in, then choose the following:
  - Speak block #1: Accept no input
  - Speak block #2: Accept no input
  - Speak block #3: Accept input after prompt

- If the intent is to enable the input devices at the beginning of the first prompt (allowing barge-in) then choose the following:
  - Speak block #1: Accept input during/after prompt
  - Speak block #2: Accept input during/after prompt
  - Speak block #3: Accept input during/after prompt

**Backup of configuration files**

PeriView does not backup configuration files before modifying them.

Solution:

Backup the configuration files before modifying them.

**Log on to browser-based PeriView**

The log on to browser-based version of PeriView fails with JRE1.4.1_X, where X is great than 3.

Solution:

The instructions for the workaround are on the PerView Web page, below PeriView 2.1.
This page has been intentionally left blank.
This chapter covers:

1. Issues
2. Notes
Issues

This chapter describes known issues and solutions for MPS 2.1 Patch Bundle 12. The issues are organized by category.

MPS

Q01311623: Plicmon -b listed some plicd server IP addresses reversed

Issue:
The output of the command `plicmon -b` (to determine plicd servers running in the subnet) returns some of the IP addresses in reverse order.

Example:
At the prompt enter the command:

```
plicmon -b
```

The output is as follows:

```
broadcasting a request for a licence server
responded to by server: 10.7.200.1
responded to by server: 2.200.7.1
```

Solution:
None

Workaround:
None

Q01806797 - VoiceXML Interpreter causes server crash.

Issue:
When you access VoiceXML, SRP restarts. A constraint in the Xerces 2.3 library does not allow the namelist attribute to exceed 7500 characters.

Solution:
In VoiceXML Interpreter, the namelist attribute length must be less than 7500 characters.

Q00734496 - Poor audio quality

Issue:
pcmrec/pcmrec2 - audio quality not good on EMEA alaw system.

Solution:
Use OKI-RECORDERS not pcm-rec.

Q00803372 - Noise with speech

Issue:
When system is under full load (192-T1/240-E1 concurrent callers) a potential exists for 0.1% of the callers to experience noise instead of audio.
Solution:
After caller disconnects, the functionality is restored for the next caller.

**Q00850326 - vhman and vpshosts file**

**Issue:**
vhman should treat vpshosts file correctly.

**Solution:**
If system has uncommented components in the OSCAR installation, check install configuration. If vpshosts file does not contain the expected data, edit vpshosts file.

**Q00934817 - mvcmp damages vpshosts file**

**Issue:**
mvcmp damages the vpshosts file when the nodes listed in the file cannot be resolved to an IP address. The nodenames show a hyphen.

**Solution:**
Two possible workarounds exist:

1. Before executing the mvcmp command, backup the vpshosts file. After executing the mvcmp command, remove all issues in the new vpshosts file.

2. Before executing the mvcmp command, execute the ping command and ensure the command is successful for all nodes listed in the vpshosts file from the node where the vpshosts file is located.

**Q01056205 - Conference port stuck**

**Issue:**
Conference ports were not freed after all callers disconnected calls.

**Solution:**
Any application that has issued a join conference command (whether it completes or not) should explicitly leave the conference by using a leave conference command before the application terminates. The application should be prepared for this leave conference command to fail and ignore the failure (this occurs if the application never joined the conference).

**Q01069635 - vsupd terminates abnormally**

**Issue:**
Under some abnormal conditions, the vsupd can terminate abnormally. The cause is unknown.
Solution:
This issue occurs rarely and is under review by Nortel. If this issue occurs contact Certified Nortel Technical Support.

PeriASE

**Q01645704 - Applications do not restart on Windows after VOS restart**

**Issue:**
Normally vengine applications restart when SRP restarts the VOS group because of a VOS group process failure. However, on Windows, the applications do not restart after VOS restarts because of a process failure; They remain in the DOWN state.

**Solution:**
Restart the applications.

PERIdist

**Q01390365 - Inconsistent pkgcutdate on software packages**

**Issue:**
Multiple software package cut dates exist for PERIdist 2.0.0.

The original distribution of PERIdist version 2.0.0 package had a cut date of 20020813. Later, the same PERIdist version 2.0.0 was required to support configurations that did not need the Apache Web server and to support MPS defaults for installation prompts.

Because of this, the PERIdist installation program, cut date 20040329, was updated to use 10.7 as the default for the IP address prompt on MPS configurations and allow the option to install Apache. The actual product that is installed (Nortel cgi scripts and the Apache Web server product) remains unchanged between cut dates.

PeriProducer 3.00

**Q00500729 - Removed support for datacard values in environment block**

**Issue:**
After you load Patch Bundle 8, it is no longer possible to assign a data card value to an environment variable.

**Solution:**
Manually change the occurrences of variables with data card values to generic variables. For example, if a program written in PeriPro at patch level 9 has an occurrence of RscConfig assigned to the data card myfolder.mystring, it appears as the string literal "myfolder.mystring" when loaded into PeriPro at patch level 12. This is NOT equivalent to the datacard myfolder.mystring. To preserve the generated code
from PeriPro at patch level 9, use a generic Application and System parameters variable. Assign the Option field to “RscConfig” and the value to the datacard myfolder.mystring.

Q00832734 - No disconnect in C7 proxy mode

Issue:

No method exists to deliver a disconnect from PeriPro to a VoiceXML dialogue in C7 proxy mode.

Solution:

A script can be invoked from the application to send a disconnect to TMS through DLT causing the line to disconnect from the bottom up. A sample script for this function follows:

```perl
#!/usr/bin/perl
#-------------------------------------------------------#
# PROGRAM: mps_fdisc.pl #
#
# This script takes 2 arguments. The first argument is
# the MPS component number and the second is the line
# number to which the forced disconnect is to be applied.
#
#-------------------------------------------------------#
my( $f ) = 0;
my( $count ) = 0;
$class=0;
$inst=0;
#$numArgs = $#ARGV + 1;
if ( @ARGV != 2 ) {
    print "Invalid command-line arguments.\n"
    exit 1;
}
$rsetprofile_rpt=`vsh -C mps.$ARGV[0] c$ARGV[1] rsetprofile`;
@fields=split(/\n/, $rsetprofile_rpt);
foreach $f (@fields) {
    if ($f =~ m/Class ID/) {
        $z=$fields[$count];
        @t=split(/\.+/, $z);
        $class=$t[1];
        # print "$class\n";
```

Q01385552 - Retention of DTMF digits upon retry

Issue:
The behavior of a Read Phone block in the PeriProducer 2.30 is different from PeriProducer 3.00 with PeriProducer 2.30 run-time behavior. The following example describes the issue. A Read Phone block is created with a Length Error path and a No Data path set for one or more retries. The behavioral difference appears when the user enters too few digits causing a Length Error which triggers a retry. In PeriProducer 2.30, the partial DTMF input is retained in both the System.LastEntry datacard and the data card in the Read Phone block before the next retry. However, in PeriProducer 3.00, the partial DTMF input is discarded before the next retry.

Solution:
If a subsequent No Data error exhausted the available retries and the logic in the No Data path relied on reading the partial DTMF input that caused the previous Length Error, the DTMF digit collection logic must be re-written in PeriProducer 3.00 in a way that preserves the partial DTMF input.

PeriRDB

Q00976416 - new default behavior for Autocommit in sqlclnt

Issue:
The new default for Autocommit is off. Previously, the default was off or on,
depending on the database type that the application accesses (ORACLE, SYBASE, ODBC, or DB2).

The new `sqlclnt` option `-c` is used to set Autocommit to on. This option must be added when accessing those databases where the default was previously on.

**Q01075242 - Error 00007713**

**Issue:**

When a Sybase Stored Procedure runs from a PeriPro application using SQLCLNT, it can result in the error. Stored procedure `ins_record` may be run only in unchained transaction mode. Error Code 00007713. `ins_record` is a user-defined stored procedure.

**Solution:**

Use the Sybase interactive utility, `isql`. Run the SYBASE system stored procedure named `sp_procxmode` and provide the parameters `ins_record` followed by the mode string "anymode".

Example: `isql>sp_procxmode ins_record, "anymode"

**PeriReporter**

**Q00950040 - PortSummHr report shows zeros**

**Issue:**

The PortSummHr report in PeriReporter shows zeros in the time field after daylight savings time.

**Solution:**

Do not remotely run PeriReporter between systems in different time zones. If the systems are geographically diverse, run PeriReporter on the system itself or remotely on a system in the same time zone.

**PERItlkt**

**Q01094550 - Not getting CLI/ANI, DDI information after issuing ALERT NAM in DPNSS system**

**Issue:**

Within the PeriProducer environment, the System data cards of DialedNumber and CallerNumber are not populated until the call is answered.

After you perform a Get-Call and the Alert Call (this is for a DPNSS telephony protocol), the system data cards are empty.
Solution:

If the PeriProducer system variables are not updated after Answer (action Get Call) is invoked, then after the Answer, Action GET CALL, from the received protocol data returned in that block, use the DPNSS toolkit Element Get to get the selection IE.

To assign variables to Protocol Received data/length fields in PeriProducer Answer block assignments, see the sample $MPSHOME/PERItlk/dpnss/samples/dpnssIn.ppr.
(No parsing of supplementary string data for calling or called party is included).

Then parse the Selection_IE.cSelFieldString for the following:

Place the calling party number anywhere in the supplementary information string of the selection IE as follows:

*50*calling_party_digits#

The called party number is appended to the supplementary information string of the selection IE, without the asteris (*) or number sign (#) characters. An example of a supplementary information string containing only the calling and called party digits is as follows:

*50*5551234#5555678
555-1234 is the calling party and 555-5678 is the called party.

Note that the called party number can appear after any supplementary string parameter, as long as it is the last item in the supplementary information string.

Q01113072 - Problems with voipsdl after installing PB9

Issue:

Issue affects only systems that run the H.323 protocol.

Solution:

This workaround ensures that if you apply another patch, the path for H.323 remains intact. The environment variable LD_LIBRARY_PATH is modified to place the PERItms/lib directory containing the libq931.so for H.323 ahead of the $MPSHOME/lib directory, which contains a link to PERItlk's ISDN q931 protocol libq931.so. This ensures the PERItms/lib/libq931.so for H.323 is found first.

To modify the LD_LIBRARY_PATH perform the following steps:

Create or modify file ${MPSHOME}/common/etc/siterc.sh to contain the following line:

LD_LIBRARY_PATH=:$MPSHOME/PERItms/lib:$LD_LIBRARY_PATH

Create or modify file ${MPSHOME}/common/etc/siterc.csh to contain the
following line:

```bash
setenv LD_LIBRARY_PATH \$(MPSHOME)/PERItms/lib:\$(LD_LIBRARY_PATH)
```

**PeriView and PeriPDP**

**Q00494828 - Iconified Alarm Viewer generates dialog boxes**

**Issue:**
When the Alarm Viewer is iconified and several alarms arrive in rapid succession, multiple Alarm dialog boxes open, one after the other. This behavior prevents the user from starting to use PeriView again.

**Solution:**

Open UserManager plug-in, select your user ID from the user table. Click the **Properties** button, the **Advanced** tab, and then click **Configure** button in the Fault Priority section. Change the fault priority of Fault Id 2021 and Fault Id 2022 to **FAULT_LOG** and save the change.

**Q01012508 - Exception generated when attempt to change a component**

**Issue:**
An exception occurs if the mmf config plug-in starts and the user attempts to change the component while it initializes.

**Solution:**

Restart PeriView and do not switch the component while the mmf configurator plug-in loads.

**Q01017860 - Duplicate registration in alarm module**

**Issue:**
When an application processor shuts down, a duplicate registration is associated with the MMDP Alarm module when it restarts.

**Solution:**

Close the Alarm Viewer and reopen a new one.

**Q01040551 - Performance issue**

**Issue:**
A slow redraw or refresh rate of the windows within PeriView occurs in client mode.

**Solution:**

Run PeriView in browser mode.
TMS

Q00611256 - TMS failover

Issue:
In a redundancy configuration, about 15 minutes after failover or failback, the condition origfail is generated on the out-dialing lines.

This problem will persist for 10 minutes before the system recovers.

Q00662725 - Touchtone at end of TT terminated recordings

Issue:
There is a 100 to 200 millisecond (ms) period of silence at end of recordings terminated by touchtones. In this case, part of the touchtone may be recorded when the system is under load conditions.

Solution:
Set the parameter ttstrip to 500 ms (or more) to extend the silence period that is stripped from the end of the recording.

Q00937553 - Hung play on multiple lines

Issue:
In rare cases, the player does not reset if the call disconnects or reconnects. The result is the channel or port can no longer play any messages. The line remains out of service until the line is reset.

If this issue occurs, contact Certified Nortel Technical Support.

VoiceXML

Q01584600 - VoiceXML sends empty gcCallID results in alarm 20207 from the Nortel Speech Server

Issue:
VoiceXML applications that use PeriProducer for front end calls are causing alarms to be generated by the Nortel Speech Server. For example:

Thu Mar 08 10:46:17 <rcm> 20207 Line 13 info Comp #oscar.121-2 (chan12:m2p38o2:DYNAM_de-CH) Failed to process parameter - Invalid syntax in parameter settings - Missing parameter value

These alarms are a result of PeriProducer applications that are interoperable with VoiceXML applications using either of the following:
- the line operations block
- the Invoke a VoiceXML dialog block within the VoiceXML toolkit where the
VoiceXML toolkit that the application was generated with is prior to VoiceXML patch vxml2.3.0.16

Solution:
If the PeriProducer application is using the line operations block to communicate with the VoiceXML application, switch to the Invoke a VoiceXML dialog block within the VoiceXML toolkit. Ensure the latest VoiceXML toolkit patch, vxml2.3.0.16 that is included in MPS 2.1 patch bundle 10 and higher, is installed on the system prior to generating the PeriProducer application.

If the PeriProducer application is already using the Invoke a VoiceXML dialog block, install MPS 2.1 patch bundle 10 or higher and regenerate the PeriProducer application.

Refer to the MPS VXML Browser User Guide (N0017392) for additional information regarding PeriProducer and VoiceXML interoperability.

Notes

Oracle Client Installation
When Oracle client is installed on a Windows 2000 system, the PATH variable is modified by the Oracle Client installation, where the Oracle version of PERL precedes the MPS version of PERL. The scripts that use perl, such as PeriRev and PeriReporter scripts, do not work.

Solution:
Move the Oracle perl path to the end of the PATH environment variable and reboot.
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Enhancements and Issues Addressed in the Patch Bundle

This chapter covers:

1. Enhancements and issues addressed in MPS 2.1 Patch Bundle 12
Enhancements and issues addressed in MPS 2.1 Patch Bundle 12

The following table lists enhancements and issues addressed by the MPS 2.1 Patch Bundle 12 release.

For information about enhancements and issues addressed in MPS 2.1 Patch Bundle 11 and Patch Bundle 10, see the appropriate MPS 2.1 patch bundle Release Notes documentation at the Nortel Support Site.

Navigate to one of the following paths to view the documents:
- Customer Contact, Self-Service & Advanced Speech, Media Processing Server (MPS) 1000
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