

HP OpenView Reporting and Network Solutions

Release Notes for MPLS VPN Smart Plug-in to Network Node Manager

Software Version: 2.1

for HP-UX, Solaris, and Windows® operating systems



Manufacturing Part Number: **None**

July 2004

©Copyright 2004 Hewlett-Packard Development Company, L.P.

Legal Notices

Warranty.

Hewlett-Packard makes no warranty of any kind with regard to this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

A copy of the specific warranty terms applicable to your Hewlett-Packard product can be obtained from your local Sales and Service Office.

Restricted Rights Legend.

Use, duplication or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause in DFARS 252.227-7013.

Hewlett-Packard Company
United States of America

Rights for non-DOD U.S. Government Departments and Agencies are as set forth in FAR 52.227-19(c)(1,2).

Copyright Notices.

©Copyright 2004 Hewlett-Packard Development Company, L.P.

No part of this document may be copied, reproduced, or translated to another language without the prior written consent of Hewlett-Packard Company. The information contained in this material is subject to change without notice.

Trademark Notices.

Microsoft® is a U.S. registered trademark of Microsoft Corporation.
Windows® is a U.S. registered trademarks of Microsoft Corporation.
UNIX® is a registered trademark of The Open Group.

Table of Contents

Introduction	4
New In This Version	5
Functionality	5
System Requirements.....	7
Hardware Requirements	7
Supported Operating Systems	7
Supported HP OpenView Software	7
Required MIBs	7
Router Requirements	8
Documentation	8
Cisco IOS.....	8
Device Agents	9
Support	9
Known Problems, Limitations, and Workarounds.....	9
SAA Traps Not Received by MPLS VPN SPI	9
MPLS VPN Views Only Accessible from NNM's Home Base	9
MPLS VPN View Missing from Dynamic Views Menu	10
Monitoring PE and CE Routers Through ICMP.....	10
MPLS VPN Views Online Help Not Available	11
Use of NoCommonName in the VpnNames.txt File	11
Migration from Version 1.0 Not Supported.....	11
Troubleshooting Tips	11
PE Routers Don't Respond to the MPLS VPN SPI.....	11

Introduction

Welcome to the 2.1 release of the MPLS VPN Smart Plug-in (SPI) to Network Node Manager of HP OpenView Reporting and Network Solutions.

The MPLS VPN SPI provides almost real-time monitoring of the MPLS VPN provider edge (PE) and customer edge (CE) routers by detecting several types of SNMP traps and enriching them to show higher-level VPN service-affecting events. The MPLS VPN SPI is compatible with netmon- and APA-based trap reception in HP OpenView Network Node Manager (NNM) Advanced Edition.

The MPLS VPN SPI configures reachability tests using the Service Assurance Agent (SAA) functionality on Cisco routers to verify the connectivity between two PE routers. Users can further refine these PE-PE SAA tests and can configure tests of the CE connectivity into the MPLS VPN network. The MPLS VPN SPI receives SAA time-out traps and enriches them to show which VPNs they affect.

The MPLS VPN views display a representation of the MPLS VPN network and related information.

This release notes document explains the software's new features; system requirements; documentation; support options; and known problems, limitations, and suggested workarounds.

New In This Version

This release of the MPLS VPN SPI includes the following new features:

- Support for discovering and managing Juniper M and T series provider edge routers.
- Localization of the MPLS VPN views, user's guide, and release notes into Japanese and Simplified Chinese.
- Compatibility with HP OpenView Network Node Manager (NNM) Advanced Edition version 7.5.
- Defect fixes from version 2.0.

Functionality

In a nutshell, this release of the MPLS VPN SPI performs the following functions:

- Discovers the MPLS VPN edge routers, VRF-enabled interfaces, as well as PE-PE and PE-CE neighbor relationships for a given VPN context.
- Detects an IF Down event for a managed edge router and, if the interface is taking part in a VPN, enriches the IF Down event into a VPN service-affecting event.
- Detects a Node Down event for a managed edge router and, if the node is taking part in one or more VPNs, enriches the Node Down event into a VPN service-affecting event.
- Detects a Card Down event for a managed edge router and, if the card is taking part in one or more VPNs, enriches the Card Down event into a VPN service-affecting event.
- Detects a Connection Down event for a connection between two interfaces within a managed VPN and enriches the Connection Down event into a VPN service-affecting event.
- Correlates the corresponding IF Up, Node Up, Card Up, or Connection Up event with the enriched VPN service-affecting event by clearing the latter.
- Offers a user interface that displays the MPLS VPN topology. The following MPLS VPN views are supported:
 - VPN inventory view showing a list of VPNs and their current state.
 - Router inventory view showing the list of edge routers taking part in the MPLS VPN network.
 - VPN details view, in both graph and table format.
 - PE details view showing a list of VRFs and their statuses.
 - VRF details view showing all interfaces, VRF export and import details, CE interface details, and connection status between PE and CE routers.
- Configures VRF-unaware SAA tests between PE routers for Cisco source PE routers.
- Configures VRF-aware SAA tests between PE routers with user assistance (both VRF-aware and VRF-unaware tests) for Cisco source PE routers.

- Configures CE SAA tests with user assistance. In this release, you can configure the following CE-specific SAA tests:
 - PE-CE SAA tests (PE router must be Cisco)
 - CE-CE SAA tests (source CE router preferred to be Cisco; if the source CE router is not Cisco, the MPLS VPN SPI splits the SAA test into two separate tests and one of the PE routers must be Cisco to support this split)
- Detects Cisco SAA test timeout traps and enriches them into VPN service-affecting events.
- Allows users to configure SAA tests and VPN names.

System Requirements

Hardware Requirements

On UNIX operating systems, the `/opt/ov/` directory must have at least 2 MB of disk space available prior to installation of the MPLS VPN SPI.

Supported Operating Systems

The following operating systems are supported:

- HP-UX 11.0 or 11.11
- Solaris 2.8 or 2.9
- Microsoft® Windows® 2000 with service pack 3.0, Windows® XP, or Windows® 2003

Supported HP OpenView Software

The MPLS VPN Smart Plug-in requires the following HP OpenView software:

- HP OpenView Network Node Manager Advanced Edition, version 7.5

Ensure that this prerequisite and its most recent consolidated patch are installed on all systems in the management environment prior to installing the MPLS VPN SPI.

NOTE: On the Windows operating system, the Typical NNM installation option does not load the Cisco SMI MIB file listed below. You can choose the Custom NNM installation option and specify to load the SNMP MIBs. Alternatively, you can load this MIB using NNM's `xnmloadmib` tool.

Required MIBs

The MPLS VPN SPI requires the following MIBs:

- Cisco SMI MIB (`CISCO-SMI-MIB.my`)
- Cisco RTTMON MIB (`CISCO-RTTMON-MIB.my`)
- Juniper SMI MIB (`jnx-smi.mib`)
- Juniper VPN MIB (`jnx-vpn.mib`)

NOTE: If the Cisco SMI MIB is loaded on the NNM management station prior to the installation of the MPLS VPN SPI, the MPLS VPN SPI installation process loads the other required MIBs.

Router Requirements

This release of the MPLS VPN SPI discovers and manages the following types of router devices:

- Cisco PE routers with Internetwork Operating System (IOS) version 12.2(15)T that support MplsVpnMIB.
The MPLS VPN SPI can perform status management, reachability test configuration, and reachability status reporting for these devices.
- Juniper M and T series PE routers with Juniper Operating System (JunOS) version 6 that support jnx-smi.mib and jnx-vpn.mib.
The MPLS VPN SPI can perform status management only for these devices.
- Any CE router with SNMP access that supports MIB-II. Configuration of Cisco SAA tests on a CE router requires that the CE router runs IOS version 12.2(15)T.

Documentation

The user manual for the MPLS VPN Smart Plug-in, *MPLS VPN Smart Plug-in to Network Node Manager User's Guide*, is available in PDF format on the Reporting and Network Solutions CD-ROM in the `Docs` directory. It is also available under the "Reporting and Network Solutions" product category in PDF format on the Web at:

http://ovweb.external.hp.com/lpe/doc_serv

Cisco IOS

The following table presents a brief history of Cisco routers' support of MPLS VPN functionality. For more information about IOS and Cisco routers' support of MPLS VPN functionality, see the Cisco Web site at:

<http://www.cisco.com>

Release	Modification
12.0(21)ST	MPLS VPN support was introduced.
12.0(22)S	MPLS VPN support was integrated into Cisco IOS Release 12.0(22)S.
12.2(13)S	MPLS VPN support was integrated into Cisco IOS Release 12.2(13)S.
12.2(15)T	The PPVPN-MPLS-VPN MIB notifications were supported in Cisco IOS Release 12.2(13)T. The PPVPN-MPLS-VPN MIB tables were integrated into Cisco IOS Release 12.2(15)T.
Supported Platforms	
Cisco IOS 12.0 S and ST Releases: Cisco 7500 series, Cisco 12000 series. Cisco IOS 12.2 T Releases: Cisco 3620, Cisco 3640, Cisco 7200 series, Cisco 7500 series, CiscoMGX8850-RPM.	

Device Agents

The NNM Extended Topology device agents are available on the NNM product media and on the Web at:

<http://www.openview.hp.com/go?id=nnmet&page=1>

Support

Visit the HP OpenView support web site at:

<http://support.openview.hp.com/>

There you will find contact information and details about the support that HP OpenView offers.

The support site includes:

- Downloadable documentation
- Troubleshooting information
- Patches and updates
- Problem reporting
- Training information
- Support program information

Known Problems, Limitations, and Workarounds

SAA Traps Not Received by MPLS VPN SPI

Configure each PE or CE router that acts as a source for one or more SAA tests to include the NNM management station as one of the SNMP trap recipients. For information about how to perform this configuration, see the documentation that came with your routers.

MPLS VPN Views Only Accessible from NNM's Home Base

The *MPLS VPN Smart Plug-in to Network Node Manager User's Guide* lists several ways of launching the MPLS VPN views. Currently, the only way to launch the MPLS VPN views is as follows:

From NNM's Home Base, select `MPLS VPN View`, and then click `Launch`.

This approach displays the MPLS VPN View that contains a tab for the MPLS VPN Router Inventory view. The other MPLS VPN views are available by double-clicking fields within these two tables of information. For information on how to open a specific view, see the Navigation section for each view in the MPLS VPN views online help.

MPLS VPN View Missing from Dynamic Views Menu

If the MPLS VPN view option does not appear in the list of views from NNM Home Base, follow these steps to rebuild the Dynamic Views menu list:

UNIX:

1. Delete the alarm browser setup files:
 - a. `cd /opt/OV/www/htdocs/C/dynamicViews`
 - b. `rm dvStyleV8.xml`
 - c. `rm menusettings.xml`
2. Stop and restart the HP OpenView application server process:
 - a. `ovstop -c ovas`
 - b. `ovstart -c ovas`
3. Restart the Web browser.

Windows:

1. Delete the alarm browser setup files:
 - a. `cd install_dir\www\htdocs\C\dynamicViews`
 - b. `del dvStyleV8.xml`
 - c. `del menusettings.xml`
2. Stop and restart the HP OpenView application server process:
 - a. `ovstop -c ovas`
 - b. `ovstart -c ovas`
3. Restart the Web browser.

Monitoring PE and CE Routers Through ICMP

If you configure PE and CE router addresses to be monitored through ICMP, pay special attention to the addresses on the PE-CE link interfaces. If they are not accessible (through ping) from the NNM management station, you may disable the APA to NOT monitor those addresses. See the NNM manuals for full details on how to enable/disable ICMP polling

If the APA is configured to poll such addresses, the MPLS VPN SPI ignores Address Unreachable events generated by the APA and does NOT perform VPN impact analysis.

MPLS VPN Views Online Help Not Available

In the MPLS VPN SPI version 2.1, the MPLS VPN views online help is not context sensitive. To reach the MPLS VPN views online help, follow these steps:

1. In any MPLS VPN view, click the question mark button.
2. In the dynamic views help, click the Solutions button (third from the left).
3. In the Solutions scoping pane, click the link for MPLS VPN views.
4. On the MPLS VPN views page, click the link for the specific view.

Use of NoCommonName in the VpnNames.txt File

The *MPLS VPN Smart Plug-in to Network Node Manager User's Guide* states that the word “Unknown” is the place holder in the VpnNames.txt file for VPNs that do not have a shared name. This word has been changed to “NoCommonName” to more accurately represent its meaning.

Migration from Version 1.0 Not Supported

The *MPLS VPN Smart Plug-in to Network Node Manager User's Guide* provides instructions for migrating from a previous version of the MPLS VPN SPI to version 2.1. HP supports migration from version 2.0 only. Such migration also requires migration of NNM Advanced Edition to version 7.5. To migrate from MPLS VPN SPI version 1.0, contact your HP support representative.

Troubleshooting Tips

PE Routers Don't Respond to the MPLS VPN SPI

PE routers must support the MPLS VPN MIBs. To test a router's support of the MPLS VPN MIBs, do the following:

```
snmpwalk <RouterName or IPAddress> 1.3.6.1.3.118.1
```

If this command returns with “no MIB objects contained under subtree,” the router does not support the MPLS VPN MIBs. Upgrade this router to a supported version of Cisco IOS. (See “System Requirements.”)

If the command output shows data in the MIBs, the router supports the MPLS VPN MIBs and should work with this version of the MPLS VPN SPI.

For troubleshooting tips, see the “Troubleshooting” chapter of the *MPLS VPN Smart Plug-in to Network Node Manager User's Guide*.