

# **HP OpenView Reporting and Network Solutions**

## **Release Notes for LAN/WAN Edge Smart Plug-in to Network Node Manager**

**Software Version: 2.2**

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



Manufacturing Part Number: **None**

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Welcome to the 2.2 release of the LAN/WAN Edge Smart Plug-in (SPI) to Network Node Manager of HP OpenView Reporting and Network Solutions. 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 LAN/WAN Edge Smart Plug-in (SPI) adds support for the board down and connection down events generated by the active problem analyzer (APA) functionality of Network Node Manager (NNM).

# Functionality

The objective of the LAN/WAN edge solution is to manage the frame relay DTE devices both proactively and reactively. Proactive management tracks the FECN and BECN performance counters. Reactive management monitors the frame relay traps and other DTE-specific traps. The solution performs root cause analysis to determine the location of the primary fault for each event.

**NOTE:** In frame relay standard terms, the FECN & BECN are single bits that identify forward and backward congestion, respectively. In this document, the terms *FECN* and *BECN* refer to NNM's FECN & BECN counters.

The following figure shows how a frame relay problem diagnosis can be split into three scenarios.



## Where is the network broken?

In the above figure, scenarios [1](#) and [2](#) show failure due to the local DTE and configurations issues, while scenario [3](#) failure is due to frame relay cloud-related problems.

The LAN/WAN Edge SPI performs the following operations:

- Correlates all of the DLCI status change events due to an IF down at the DTE under a new event called “Local PVC problem due to IF down.” This is one example of scenario 1 in the above figure.
- Correlates all of the DLCI status change events to a connection down event at the DTE under a new event called “Local PVC problem due to Connection down.” This is one example of scenario 1 in the above figure.
- Correlates all of the DLCI status change events due to a board down at the DTE under a new event called “Local PVC problem due to Board failure.” This is one example of scenario 1 in the above figure.
- Correlates all of the DLCI status change events due to LMI configuration problems (Cisco-specific) under a new event called “Local PVC problem due to LMI failure” (scenario 2 in the above figure).
- Correlates all of the DLCI status change events due to PVC invalidation by the service provider under a new event “Carrier Problem.” This is one example of scenario 3 in the above figure.
- Correlates all of the DLCI status change events due to a PVC flapping state under a new event called “PVC Flapping.” This is one example of scenario 3 in the above figure.
- Correlates all of the DLCI status change events due to changes in the PVC creation time under a new event called “PVC Reset (Creation time changed).” This is one example of scenario 3 in the above figure.
- Generates a threshold alarm when the FECN or BECN counters cross the threshold value.

The new event(s) created by the root cause analysis engine show the number of times each of the DLCIs flapped. All DLCI status change events and any local device-specific events can be viewed under the correlated event. A configurable time interval specifies the duration of a particular correlation. This time interval can be changed to match customer network requirements.

**The current release does not provide any frame relay topology or view.**

The following table lists the scenario number and the resulting output based on the root cause analysis. These alarms appear in the FrameRelay Alarms browser in NNM.

Problem Scenario	Description	Correlation Time Window	Output Event Format	Output Event ID
1	DLCI status change events due to IF down on the local frame relay interface	5 min	Frame relay: Local PVC problem due to IF down. IFIndex=<value> (<dlci-id, no of times flapped>) <remote destination affected>	58982433
1	DLCI status change events due to connection down on the local frame relay device	5 min	Frame Relay: Local PVC problem due to Connection down. ifIndex=<value> (<dlci-id, no of times flapped>) <remote destination affected>	58982434
1	DLCI status change events due to board down on the local frame relay device	5 min	Frame Relay: Local PVC problem due to Board failure. ifIndex=<value> (<dlci-id, no of times flapped>) <remote destination affected>	58982435
2	DLCI status change event due to LMI problem at the local frame relay interface	5 min	Frame relay: Local PVC problem due to LMI failure. ifIndex=<value> (<dlci-id, no of times flapped>) <remote destination affected>	58982430

3	DLCI flapping (circuit problem)	5 min	Frame relay: PVC Flapping. IfIndex=<value> (<dlci-id, no of times flapped>) <remote destination affected>	58982431
3	DLCI status change (to invalid) due PVC invalidation (carrier Problem)	5 min	Frame relay: Carrier Problem. ifIndex=<value> (<dlci-id, no of times flapped>) <remote destination affected>	58982429
3	DLCI reset ( creation time changed)	5 min	Frame relay: PVC Reset (creation time changed). ifIndex=<value> (<dlci-id, no of times flapped>) <remote destination affected>	58982428



# System Requirements

## Hardware Requirements

On UNIX operating systems, the `/opt/OV/` directory must have at least 3 MB of disk space available prior to installation of the LAN/WAN Edge SPI.

## Supported Operating Systems

The following operating systems are supported:

- HP-UX 11.0 or 11i
- Solaris 2.8 or 2.9
- Microsoft® Windows® 2000 with service pack 3.0, Windows® XP, or Windows® 2003

## Supported OpenView Software

The LAN/WAN Edge SPI requires the following HP OpenView software:

- HP OpenView Network Node Manager Advanced Edition, version 7.5

Ensure that all its prerequisites and patches are installed on all systems in the management environment prior to installing the LAN/WAN Edge SPI.

## Required MIBs

The LAN/WAN Edge SPI requires the following MIBs:

- RFC1315 or RFC2115. Note that the RFC2115 MIB is backwards compatible with the RFC1315 MIB.
- Cisco Frame Relay MIB (`CISCO-FRAME-RELAY-MIB.my`)
- Cisco SMI MIB (`CISCO-SMI.my`)

Ensure that all prerequisite MIBs are installed on all systems in the management environment prior to running the LAN/WAN Edge SPI.

## Documentation

The user manual for the LAN/WAN Edge SPI, *LAN/WAN Edge Smart Plug-in for 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](http://ovweb.external.hp.com/lpe/doc_serv)

## 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

## General Information

- The LAN/WAN Edge SPI returns -1 for failed SNMP queries and displays the variables for which the operation failed. Failed SNMP queries are usually due to an invalid set community string setting or a call timeout.
- The LAN/WAN Edge SPI works identically with either the 1315 Frame Relay MIB or the 2115 Frame Relay MIB. As the 2115 MIB is shipped with Network Node Manager, it may be the most convenient. However, if the 1315 MIB has been installed, the LAN/WAN Edge SPI will function with no change in operation.
- The LAN/WAN Edge SPI has been verified to work in high availability environments. To setup the high availability environment, you must install and configure The LAN/WAN Edge SPI on both the active and standby management stations. Please contact HP technical support for specific configuration needs.

## Limitations

- For DLCI status change due to IF down scenario, `sysName`, along with `IFIndex` ID (and, in the duplicate IP environment, Route Distinguisher), is used as a unique key to perform the correlation. If the SNMP call to retrieve the `sysName` fails, the event will not pass this rule and, therefore, will default to the PVC flapping scenario.
- Some of the root cause analysis queries are Cisco DTE-dependent making the solution more tailored for a Cisco environment. Future releases should take care of these shortcomings.
- For non-Cisco devices frame relay root cause analysis may not show remote destination information due to the query dependency on the Cisco frame relay MIB to retrieve sub-interface information.
- WINDOWS ONLY: NNM must use Solid as its data repository on Windows operating systems. The LAN/WAN Edge SPI does not support the configuration of Oracle as NNM's data repository.
- LAN/WAN Edge SPI has not been verified to work in high availability environments.

## Known Problems

### DOS Command Windows Appear on the Windows Operating System

Certain events cause ECS to invoke a perl script that evaluates the values of specified MIB variables. The perl script calls an executable that displays about five DOS command windows in succession onto the NNM management station. The DOS command windows disappear as soon as the executable completes evaluation of the MIB variable values.

### PMD Process Stops

There is a known problem in ECS on the Windows operating systems such that loading or unloading the LAN/WAN Edge SPI occasionally causes the PMD process to stop running. After

installing the LAN/WAN Edge SPI and after loading or unloading the LAN/WAN Edge SPI, perform the following steps:

1. Verify the state of the PMD process by typing:
  - a. **ovstatus -c**
2. If the PMD process is not running, stop and restart all NNM processes by typing:
  - a. **ovstop -c**
  - b. **ovstart -c**

### **Alarm Source Data Appears to Be Incorrect**

At times, the LAN/WAN Edge SPI may appear to be sending incorrect alarm source information, when the source information is, in fact, correct. This is the result of a known ECS problem. To correct this behavior, download and install the latest ECS patches.

### **Root Cause Analysis Fails at High Alarm Rates**

Root cause analysis performs SNMP queries with the devices to perform the correlation. These queries are invoked via an embedded Perl script. Because Perl scripts are interpreted at runtime, there could be some performance implications at a high alarm rate. In most cases, the failures are generally with the correlated count.

### **The ovframerepload.ovpl Script Fails**

If the `ovframerepload.ovpl` script fails, ensure that the OV environment variables are set properly. If the problem persists, please contact HP support.

### **DLCI Report is Empty**

If you are running OVPI 5.0 and the Frame Relay Report Pack 3.0, you have the ability to launch reports from within the object manager window of the Administration GUI and have them appear pre-populated with the data for the object you have selected. The Frame Relay Report Pack has three classes of objects: Device, Interface and DlcI. If you choose a DlcI object and attempt to launch a form or report, it will appear on the screen but will be empty. If you launch the same form or report using the Device or Interface object, it will be correctly populated.