Integrating HP Network Node Manager and HP Performance Insight

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

Software Version: NNM 7.5x, NNMi 8.xx, and Performance Insight 5.40

User Guide

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Contents

1 Integrating NNM and PI

This document describes how to integrate HP Performance Insight (PI) 5.40 with the following:

- HP Network Node Manager (NNM) 7.5x
- HP Network Node Manager i-series Software (NNMi) 8.xx

In this document, the following terms are used to distinguish between different versions of NNM:

- "NNM 7.5x" denotes information that applies only to NNM 7.5x.
- "NNMi 8.xx" denotes information that applies only to NNMi 8.xx.
- "NNM" denotes information that applies to NNM 7.5x and NNMi 8.xx.

Integration Overview

NNM is a fault-management application that produces views of your network, based on data gathered from Simple Network Management Protocol (SNMP) agents. Because NNM alone does not provide data related to node health or interface performance, it must be integrated with an application that collects performance data. PI is a performance monitoring application that collects data from Management Information Bases (MIBs), processes the data according to report pack directives, and displays trending data in a series of web-based reports.

Integration Benefits

Integrating NNM and PI produces the following benefits:

- PI monitors the nodes managed by NNM, and collects performance data for them.
- PI monitors its database for threshold conditions, and sends alarms to NNM when it detects a threshold condition.
- NNM operators respond to PI alarms by launching node-specific PI reports directly from NNM (also known as “cross-launching”).
- PI collects incident data from NNM, processes the data, and produces reports that enable you to see trends.

Integration Tasks

Integrating NNM and PI involves four tasks:

- Synchronizing nodes.
- Adding PI-related options to the NNM user interface.
- Configuring PI to send threshold alarms to NNM.
- Collecting event data from NNM and producing reports about events.

This document covers the first three tasks.

For information about collecting data from NNM and producing historical reports about events, see the following documents:

- *NNM 7.5x Event and Availability Report Pack User Guide*
- *NNMi 8.xx Incident and Availability Report Pack User Guide*

Table 1 describes the integration tasks that are supported for specific combinations of PI and NNM versions.

Table 1 NNM-PI Integration

PI and NNM	Integration Tasks	Supported
5.20 and 7.5x	Node synchronization	Yes
	Cross-launching options	Yes
	NNM Event Report Pack	Yes
5.30 and 7.5x	Node synchronization	Yes
	Cross-launching options	Yes
	NNM Event Report Pack	Yes
5.31 and 7.5x	Node synchronization	Yes
	Cross-launching options	Yes
	NNM Event Report Pack	Yes, using NNM Event Report Pack for PI 5.30
5.40 and 7.5x	Node synchronization	Yes
	Cross-launching options	Yes
	NNM Event Report Pack	Yes
5.40 and 8.11	Node synchronization	Yes
	Cross-launching options	Yes
	NNM Event Report Pack	Yes

PI Thresholding

PI cannot deliver SNMP traps to the NNM management server unless the following packages are installed on PI:

- Threshold and Event Generation Module
- At least one threshold sub-package related to one report pack

The Threshold and Event Generation Module monitors database tables for threshold conditions. The database queries that detect threshold conditions can be executed as frequently as new data is added to database tables. When a query detects a threshold condition, the Threshold Module logs an event and takes an action. The event log indicates the object, the time, and the data values that triggered the event. The action is configurable. The default action is to send a generic SNMP trap to an external system.

Threshold Module

The Threshold Module contains three packages:

- Thresholds
- ThresholdsRP (Thresholds Report Pack)
- ThresholdsExample

Installing the Thresholds package is mandatory. Installing the other two packages is optional.

The Thresholds package contains the following:

- Core processing script that reads threshold definition files, formulates queries, and detects threshold conditions
- Create Action Definition forms (3)
- Update Action Definition forms (3)
- Data tables for storing data about threshold events
- Property tables for storing data about configured actions

Threshold Sub-Packages

Some report packs include a separate, optional threshold sub-package. The threshold sub-package defines a thresholds policy for the report pack. It tells the Threshold Module which columns to check and which threshold values to look for. For example, the Interface Reporting Thresholds sub-package defines thresholds for interface utilization, errors, and discards.

If you want to implement thresholding for the report pack, you must install the threshold sub-package. Every threshold sub-package contains threshold definitions files, a procedure file, and entries for `trendtimer.sched`. When you install a threshold sub-package, the threshold definition files are copied to `{DPIPE_HOME}/lib`, the procedure file is copied to `{DPIPE_HOME}/scripts`, and the trendtimer entries are added to `trendtimer.sched`.

When PI calls the procedure file in the scripts directory, the following events take place:

- Procedure file calls `thresholds.pl`, the core processing script.
- `thresholds.pl` reads the threshold definition file and queries the database table.
- `thresholds.pl` stores the current threshold status in a temporary table.
- If `thresholds.pl` detects a threshold condition, it updates an event log.
- Next time the same query runs, `thresholds.pl` compares the current threshold status to previous threshold status.
- If a change is detected, `thresholds.pl` determines if the category and severity of the new status matches a configured action.
- If the new status matches a configured action, the script initiates that action.

Related Documents

For more information about NNM and PI, see the following documents:

- **NNMi 8.xx**
  - *HP NNMi Incident and Availability Report Pack User Guide*
  - HP Network Node Manager i-series Software *Online Help*
  - HP Network Node Manager i-series Software Deployment and Migration Guide
- **NNM 7.5x**
  - *HP NNM Event and Availability Report Pack User Guide*
  - *Managing Your Network with HP Software Network Node Manager*
  - *Creating and Using Registration Files*
- **NNM and PI Integration**

  NNM and PI Integration Module Release Notes
- **PI**
  - *Administration Guide*
  - *Guide to Building and Viewing Reports*
  - *Installation and Upgrade Guide for Oracle Databases on UNIX*
  - *Installation and Upgrade Guide for Oracle Databases on Windows*
  - *Installation and Upgrade Guide for Sybase Databases on UNIX*
  - *Installation and Upgrade Guide for Sybase Databases on Windows*
- **PI Reporting Solutions**

  Threshold and Event Generation Module User Guide

You can download these documents from the following website:

http://h20230.www2.hp.com/selfsolve/manuals

Use the following keywords to find specific documents:

- Performance Insight

  User guides for PI

- **Performance Insight Report Packs**

  User guides for report packs and datapipes

- **NNM and PI Integration Module**

  NNM and PI Integration Module Release Notes

- **Network Node Manager**

  User guides for Network Node Manager (all versions)

Each user guide includes a publication date. If the manual is revised and reposted, the date changes. Revised manuals are posted on a regular basis. Make sure to download the latest web editions.

2 Preparing NNM 7.5x for Integration

This chapter explains how to prepare HP Network Node Manager (NNM) 7.5x for integration with HP Performance Insight (PI) 5.40. It shows you how to use the `install.ovpl` script to prepare NNM 7.5x for node synchronization.

Before You Begin

Before running the `install.ovpl` script, complete the following tasks:

- Task 1: Verifying Your Software on page 19
- Task 2: Windows Only: Setting Permissions on NNM 7.5x on page 20

> You need to set write permissions for the Internet Guest Account only if NNM 7.5x is installed on Windows.

Verifying Your Software

Before enabling NNM 7.5x to synchronize nodes with PI you need to verify that you have installed the proper versions of PI and NNM.

Verify that you have installed the following software on separate servers:

- HP Performance Insight 5.40
- HP Network Node Manager 7.5x

  Make sure you have the latest consolidated patch, which is available for download from the following location:

  http://support.openview.hp.com/selfsolve/patches

Windows Only: Setting Permissions on NNM 7.5x

If NNM 7.5x is installed on Windows, you also need to set the write permission for the Internet Guest Account on the NNM 7.5x server.

To set write permissions for the Internet Guest Account, following these steps:

1. From the Control Panel window on the NNM 7.5x server, double-click **Administrative Tools.**
2. Double-click **Computer Management**.

   The Computer Management window opens.
3. In the console tree, expand **Local Users and Groups.**
4. Click **Users**.
5. Write down the name of the Internet Guest Account.
6. From the NNM installation directory, right-click the **tmp** directory, and select **Sharing** or **Sharing and Security** from the submenu.
7. Click the **Security** tab.
8. Click **Add**.
9. In the Enter the Object Name to Select box, type the name of the Internet Guest Account.
10. Click **OK**.
11. Select **Internet Guest Account**, and add the **Write** permission to the list of allowed permissions.
12. Click **OK**.

Running the install.ovpl Script

The `install.ovpl` script enables NNM 7.5x to synchronize nodes with PI in response to calls from the PI Integration Wizard.

To run the `install.ovpl` script on the NNM 7.5x server, follow these steps:

1. Find the `install.ovpl` file in the `OVPI-INTEGRATION` folder:
   - *HP-UX*

     ```
     $OV_MAIN_PATH/newconfig/OVNNM-RUN/OVPI_INTEGRATION
     /install.ovpl
     ```

   - *Solaris*

     ```
     $OV_MAIN_PATH/newconfig/OVNNM-RUN/OVPI_INTEGRATION
     /install.ovpl
     ```

   - *Windows*

     ```
     $OV_MAIN_PATH/conf/OVPI_INTEGRATION/install.ovpl
     ```

2. Run the script with the version of Perl that shipped with NNM.

   Use one of the following command-line options:

   - **`install.ovpl`**

     Adding no options is the standard way to run the script. The script updates every Application Registration File (ARF) and browser action file in the `OVPI_INTEGRATION` directory, and moves each file to the appropriate directory.

   - **`install.ovpl -force all`**

     The **`-force`** option applies a `server_name` and `port` combination to existing ARFs. You can do this globally or individually. Use the **`all`** attribute to update every ARF in the integration directory.

     The global update option is useful when the following is true:

     — You want every ARF to point to a different PI server.

     — HTTP port number on the PI server has changed.

   - **`install.ovpl -force <file.arf>`**

Using the <*file.arf*> option causes `install.ovpl` to configure and move an individual ARF. Use this option if you want to launch different reports on different PI servers.

The script asks two questions:

```
What is the name or IP address of the system running your
OpenView Performance Insight Report Application Server?
```

```
What is the port number your OpenView Performance Insight
Report Application Server is running on?
```

To determine the port number, open the following file:

```
$DPIPE_HOME/data/systems.xml
```

The port number is listed under the following tag:
`<ApplicationServerProperties>`

Example:

```
<ApplicationServerProperties>
<Port>80</Port>
```

The script takes the following actions:

a. Installs the HP Interconnect package (HPOvIco3.01.00.1).

b. Creates the `ovpi_server.txt` file:

   – Resides in the `OVPI-NNM-Integ` directory.

   – Contains the PI server name.

   – Contains the PI port number.

c. Loads the necessary ARF files.

d. *Windows only:* Configures and places the `request.properties` file on Windows

e. Updates and places the event-launch Perl script.

f. Sets the OVPI threshold trap definition.

g. Places the topology export script.

h. Places the uninstall script.

i. Places the CGI script for adding and removing the `arf` and `rpt-launch-conf` files.

j Configures the OVI components.

k Adds OVPI Launch Pad capabilities to ET views.

When the script completes, the following message appears:

```
Install complete. Please close and reopen all ovw maps to
instantiate configurations.
```

NNM is now ready to synchronize nodes with PI in response to calls from the PI Integration Wizard.

3 Preparing NNMi 8.xx for Integration

This chapter explains how to prepare HP Network Node Manager i-series Software (NNMi) 8.xx for integration with HP Performance Insight (PI) 5.40. It shows you how to use the `piurlconf.ovpl` script to prepare NNMi 8.xx for node synchronization.

Before You Begin

Before running the `piurlconf.ovpl` script, complete the following tasks:

- Task 1: Verifying Your Software on page 25
- Task 2: Creating a Web Service Client User Account on page 26
- Task 3: Setting Permissions on PI on page 27

Verifying Your Software

Before enabling NNMi 8.xx to synchronize nodes with PI, you need to verify that you have installed the proper versions of PI and NNMi 8.xx.

Make sure the following software is installed:

- HP Performance Insight 5.40
- HP Network Node Manager i-series Software 8.11

  Make sure you have the latest consolidated patch, which is available from the following location:

  http://support.openview.hp.com/selfsolve/patches

Creating a Web Service Client User Account

Before you can access the NNMi web services, you need to set up a Web Service Client User Account on NNMi 8.xx.

To create a Web Service Client User Account, follow these steps:

1. On NNMi 8.xx, go to the User Account form.
2. From the workspaces navigation panel, select the **Configuration** workspace.
3. Select the **User Roles and Accounts** view.
4. Do one of the following:
   - To create a new configuration, click the **New** icon.
   - To edit an existing configuration, select a row and click the **Open** icon.
5. In the Account Mapping form, locate the Role attribute.
6. From the drop-down menu, select a role.
7. In the Account Mapping form, locate the Account attribute and click the **Lookup** icon.
8. Do one of the following:
   - To select an existing account, click the **Quick Find** icon and select an account from the list.
   - To edit the current account, click the **Open** icon and continue.
   - To create new account, click the **New** icon and continue.
9. Provide the required information.
10. Click **Save and Close** to return to the Account Mapping form.
11. In the Role form, do one of the following:
    - To save your changes and return to the User Accounts and Roles view, click **Save and Close**.
    - To add another user account, click **Save and New**.

Setting Permissions on PI

To run the `piurlconf.ovpl` script, you must have execute permission for the script and read permission for the XML files listed in Step 3 below. If you do not have read permission for the XML files, your first step is to give yourself read permission.

To set permissions for the `piurlconf.ovpl` script, following these steps:

1. On PI, go to the following location:
   - *HP-UX and Solaris*

     `<DPIPE_HOME>/data/nnmpi_conf`
   - *Windows*

     `<DPIPE_HOME>\data\nnmpi_conf`

   In this location, *<DPIPE_HOME>* is the directory where you installed PI.
2. Give yourself execute permission for the `piurlconf.ovpl` script.
3. Give yourself read permission for the following XML files:
   - `PIURLActions.xml`
   - `PIIncidents.xml`

Running the piurlconf.ovpl Script

The `piurlconf.ovpl` script configures PI-related URL actions and SNMP traps on the NNMi 8.xx server. The URL actions enable you to launch PI reports from the NNMi 8.xx server.

To run the `piurlconf.ovpl` script, follow these steps:

1. On PI, go to the following location:
   - *HP-UX and Solaris*

     `<DPIPE_HOME>/data/nnmpi_conf`
   - *Windows*

     `<DPIPE_HOME>\data\nnmpi_conf`

   In this location, *<DPIPE_HOME>* is the directory where you installed PI.
2. Copy the following files:
   - `piurlconf.ovpl`
   - `PIURLActions.xml`
   - `PIIncidents.xml`
3. On the NNMi 8.xx server, add a new `nnmpi_config` directory under the existing `newconfig` directory:
   - *HP-UX and Solaris*

     `<install_dir>/newconfig/`**`nnmpi_config`**
   - *Windows*

     `<install_dir>\newconfig\`**`nnmpi_config`**

   In this location, *<install_dir>* is the directory where you installed NNMi 8.xx.

4 Paste the files you copied in Step 2 into the `nnmpi_config` folder:

- *HP-UX and Solaris*

  `<install_dir>/newconfig/nnmpi_config/`**`piurlconf.ovpl`**

  `<install_dir>/newconfig/nnmpi_config/`**`PIURLActions.xml`**

  `<install_dir>/newconfig/nnmpi_config/`**`PIIncidents.xml`**

- *Windows*

  `<install_dir>\newconfig\nnmpi_config\`**`piurlconf.ovpl`**

  `<install_dir>\newconfig\nnmpi_config\`**`PIURLActions.xml`**

  `<install_dir>\newconfig\nnmpi_config\`**`PIIncidents.xml`**

5 Run the `piurlconf.ovpl` script.

The script prompts you for the following:

- NNMi 8.xx administrator user name and password
- Fully-qualified domain name of the PI server
- Port number of the web server
- Communication protocol (HTTP or HTTPS)

To determine the port number and protocol, open the following file:

`$DPIPE_HOME/data/systems.xml`

The port and protocol are listed under the following tag:

`<ApplicationServerProperties>`

Example:

```
<ApplicationServerProperties>
   <Port>80</Port>
   <SecurePort>443</SecurePort>
   <Secure>true</Secure>
```

If the `Secure` value is `true`, the protocol is HTTPS. If the value is false, the protocol is HTTP.

4 Deploying the Integration

This chapter describes how to integrate HP Performance Insight (PI) 5.40 with the following:

- HP Network Node Manager (NNM) 7.5x
- HP Network Node Manager i-series Software (NNMi) 8.xx

In this document, “NNM” denotes information that applies to NNM 7.5x and NNMi 8.xx.

To integrate PI with NNM, perform the following tasks:

- Task 1: Running the Integration Wizard on page 31
- Task 2: Configuring the Default NNM Trap Destination on page 36
- Task 3: Configuring Multiple NNM Trap Destinations on page 38
- Task 4: Verifying NNM Node Synchronization on page 40

Running the Integration Wizard

The Integration Wizard imports NNM nodes into PI. It also enables you to exclude nodes you do not want to import.

To run the Integration Wizard, follow these steps:

1 Locate the `NNMPI_Wizard` file in the following directory:

`<DPIPE_HOME>/bin`

In this location, <*DPIPE_HOME*> is the directory where you installed PI.

2 Start the Integration Wizard:

- *UNIX*

  Double-click the **`$NNMPI_Wizard`** file.

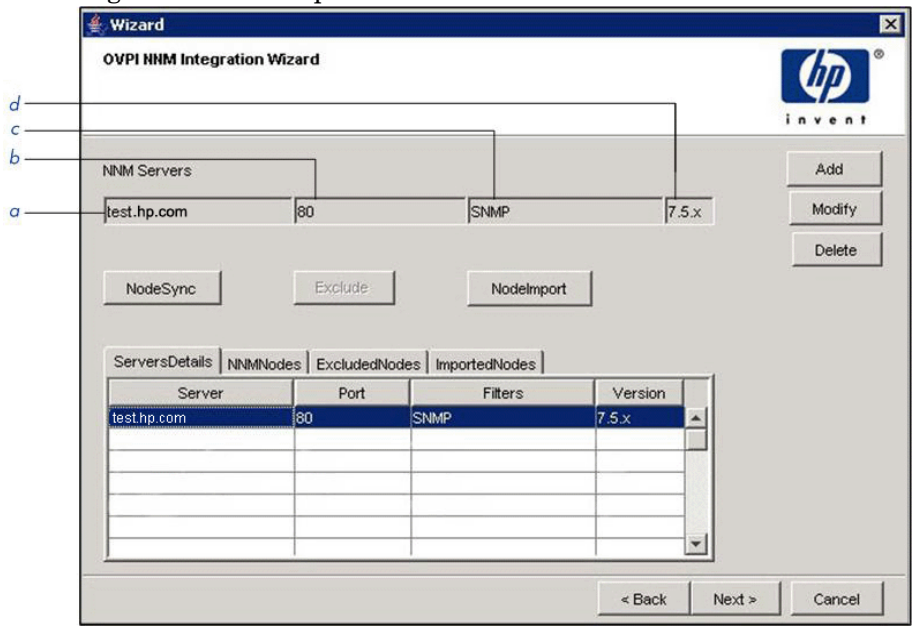
- *Windows*

  Do one of the following:

  – Double-click the **`NNMPI_Wizard.exe`** file.

  – Log on to `piadmin`, and then select **Tools** → **NNM-PI Integration Wizard**.

The Integration Wizard opens.



Legend

a NNM server hostname or IP address

b Port number

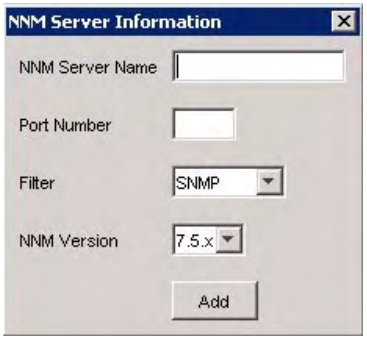
c Filter list

d NNM server version

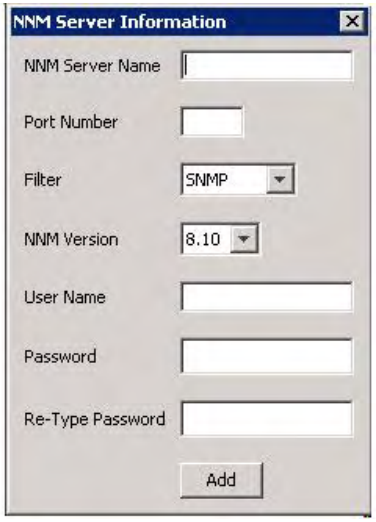
3 Click **Add**.

The NNM Server Information dialog box opens.

NNM 7.5x



NNMi 8.xx



4 In the NNM Server Name box, type the hostname or IP address of the NNM server.

5 In the Port Number box, type the port number.

The port number is the NNM console port number.

6 From the Filter list, select one of the following filters:

- **SNMP**

  Imports all SNMP nodes.

- **NON SNMP**

  Imports all non-SNMP nodes.

- **ALL**

  Imports both SNMP and non-SNMP nodes.

7 From the NNM Version list, select one of the following items:

- **7.5x**

  Proceed to step 10.

- **8.x**

  The User Name, Password, and Re-Type Password boxes are enabled.

8 *NNMi 8.xx only:* In the User Name box, type the user name of the web service client.

9 *NNMi 8.xx only:* In the Password and Re-Type Password box, type the password of the web service client.

10 Click **Add**.

The server details appear in the Servers Details tab. The details are stored in the `nnm_node_src.txt` file. For details, see Table 1 on page 35. To modify or delete server details, use the **Modify** and **Delete** buttons.

11 Click **Node Sync**.

The following occurs:

a The Integration Wizard calls the `nodeList.ovpl` script on NNM.

b The `nodeList.ovpl` script calls the `OvpiExport.ovpl` script.

c The `OvpiExport.ovpl` script generates the `InsightExport.txt` file, which contains every node discovered by NNM.

d The `nodeList.ovpl` script encrypts the text file, changes the name to `nnm_node_list.txt`, and sends the file to the Integration Wizard.

e The Integration Wizard applies specified filters. Nodes that match the filter are stored in the `nmm_node_list_filtered.txt` file.

f The nodes in the `nnm_node list_filtered.txt` file appear in the NNM Nodes tab.

12 *Optional:* If you want to exclude a specific NNM node, click the **NNM Nodes** tab, select the node, and click **Exclude**.

The node you exclude is added to the `nnm_nodes_exclude.txt` file. To see a list of excluded nodes, click the **Excluded Nodes** tab.

13 Click **Node Import**.

The following occurs:

- Integration Wizard imports the NNM nodes that are not excluded.
- Imported NNM nodes appear in the Imported Nodes tab.
- Imported NNM nodes are stored in the `nnm_nodes_import.txt` file.

Files Created by the Integration Wizard

Table 1 lists the contents and locations of the files and logs mentioned in Running the Integration Wizard on page 31.

Table 1 Integration Wizard Files and Logs

File or Log	Contents	Location
nnm_node_src.txt	Port, filter, and version data for NNM. Required for automatic scheduling of NNM and PI Integration module.	OVPI_HOME/lib
nnm_node_list.txt	List of nodes obtained from NNM.	
nm_node_list_filtered.txt	Nodes that were not excluded by the filter.	
nnm_nodes_exclude.txt	Nodes that were excluded by the filter.	
nnm_nodes_import.txt	Nodes imported by PI.	
NNMPI_Wizard.log	Messages generated by the Integration Wizard.	OVPI_HOME/log
NNMPI_Cmd.log	Messages generated by the nnmpi_cmd command.	

Scheduling Automatic Node Importing

You can schedule node importing so that it runs at regular intervals.

To schedule automatic node importing, append the end of the trendtimer.sched file with the following line:

```
24:00+1:00 - - {DPIPE_HOME}/bin/nnmpi_cmd
```

The nnmpi_cmd directory requires the nnm_node_src.txt and nnm_nodes_exclude.txt files. These files are created when you run the Integration Wizard. The operations of the nnmpi_cmd command are listed in the NNMPI_Cmd.log file.

Configuring the Default NNM Trap Destination

When you install the Threshold and Event Generation Module, the trap destination is set to localhost. After PI is integrated with NNM, you must change that default.

Configuring the Default NNM Trap Destination on UNIX

To modify the default NNM trap destination on a PI server running a UNIX operating system, follow these steps:

1. As a `trendadm` user, start the PI administrator utility:

   `$DPIPE_HOME/bin/piadmin`

2. In the left pane, click **Objects**.
3. Double-click **Update SNMP Trap Destination**.

   The Thresholds window opens.

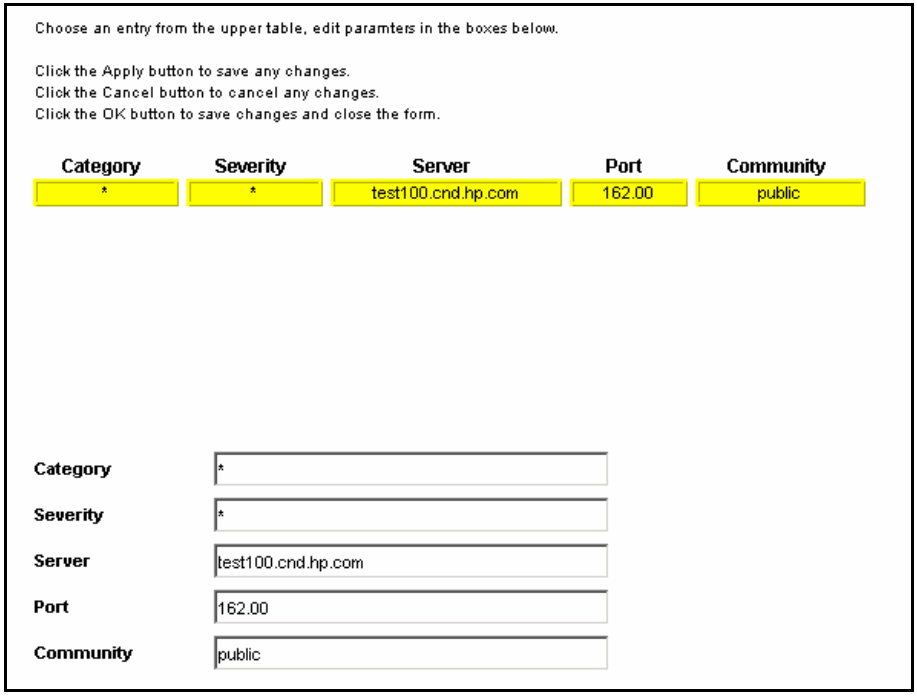
4. Designate a destination for traps by entering an IP hostname and a port for the NNM management server.

Configuring the Default NNM Trap Destination on Windows

To modify the default NNM trap destination on a PI server running a Windows operating system, follow these steps:

1. As a user with administrative privileges, start the PI administrator utility by selecting **Start→Programs→HP Software→Performance Insight→ Management Console**.
2. In the left pane, click the **Objects** icon.
3. From the General Tasks pane, double-click **Update SNMP Trap Destination**.

The Thresholds window opens.



4 In the Server field, enter the hostname of the NNM management station.

5 In the Port field, enter the port number of the NNM management station. Traps are forwarded from PI to this port on NNM.

6 Click **Apply** for the changes to take affect.

Configuring Multiple NNM Trap Destinations

Typically, you want PI to deliver traps to one NNM management station. However, you can deliver traps to multiple NNM management stations.

To set multiple trap destinations, follow these steps:

1 Start the PI administrator utility:

- *UNIX*

  As the user `trendadm`, execute the following command:

  `$DPIPE_HOME/bin/piadmin`

- *Windows*

  Do one of the following:

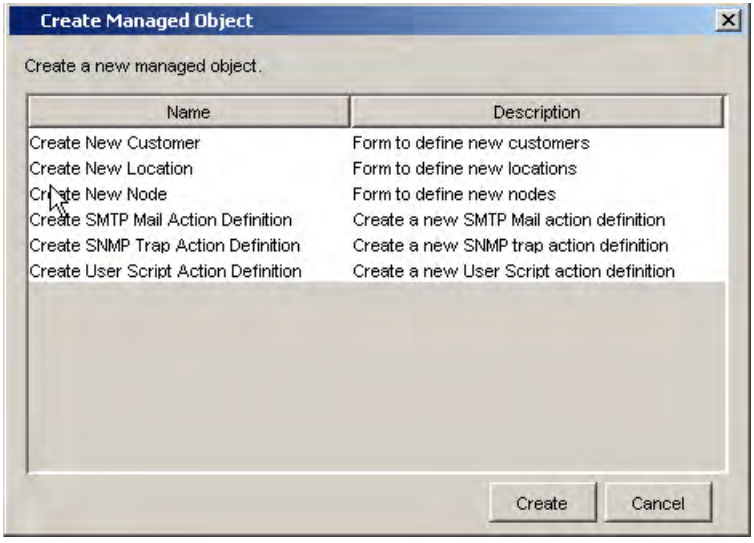
  — Click **Start→Programs→HP Software→Performance Insight→ Management Console**.

  — Run the following:

  `%DPIPE_HOME%\bin\piadmin`

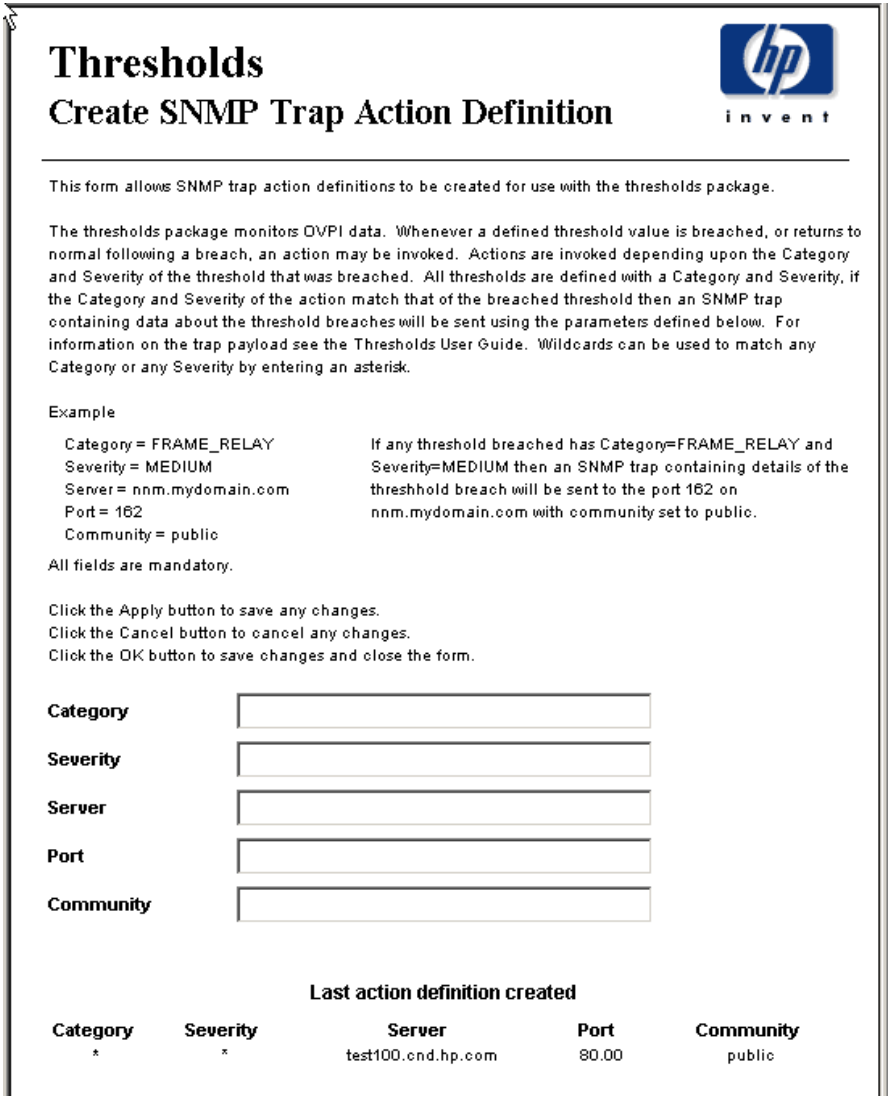
2 In the left pane, click the **Objects** icon.

3 Click **File → New** to open the Create Managed Object window.



4 From the list, select **Create SNMP Trap Action Definition**.

5 Click **Create** to display the Create SNMP Trap Action Definition form.



Thresholds

Create SNMP Trap Action Definition

invent

This form allows SNMP trap action definitions to be created for use with the thresholds package.

The thresholds package monitors OVPI data. Whenever a defined threshold value is breached, or returns to normal following a breach, an action may be invoked. Actions are invoked depending upon the Category and Severity of the threshold that was breached. All thresholds are defined with a Category and Severity, if the Category and Severity of the action match that of the breached threshold then an SNMP trap containing data about the threshold breaches will be sent using the parameters defined below. For information on the trap payload see the Thresholds User Guide. Wildcards can be used to match any Category or any Severity by entering an asterisk.

Example

Category = FRAME_RELAY
Severity = MEDIUM
Server = nnm.mydomain.com
Port = 162
Community = public

If any threshold breached has Category=FRAME_RELAY and Severity=MEDIUM then an SNMP trap containing details of the threshhold breach will be sent to the port 162 on nnm.mydomain.com with community set to public.

All fields are mandatory.

Click the Apply button to save any changes.
Click the Cancel button to cancel any changes.
Click the OK button to save changes and close the form.

Category

Severity

Server

Port

Community

Last action definition created

Category	Severity	Server	Port	Community
*	*	test100.cnd.hp.com	80.00	public

6 Enter the host name and SNMP port number of the NNM management station.

Verifying NNM Node Synchronization

To verify devices have been imported from NNM into PI by using NNM node synchronization, follow these steps:

1 Start the PI administrator utility:

- *UNIX*

  As the user `trendadm`, execute the following command:

  `$DPIPE_HOME/bin/piadmin`

- *Windows*

  Do one of the following:

  — Click **Start→Programs→HP Software→Performance Insight→ Management Console**.

  — Run the following:

  `%DPIPE_HOME%\bin\piadmin`

2 Select **Administratio→Node Management→Manage Nodes**.

All nodes managed by PI are displayed. The list should contain the nodes imported from NNM.

Currently, it is not possible to automatically determine whether NNM nodes and PI nodes are synchronized. As a workaround, you can verify the nodes manually by comparing the node lists of NNM and PI. If a node is deleted or not managed in NNM, the node must be deleted from PI manually to keep NNM and PI nodes synchronized.

5 Launching Reports from NNM 7.5x

You can launch HP Performance Insight (PI) 5.40 reports from the following HP Network Node Manager (NNM) 7.5x user interfaces:

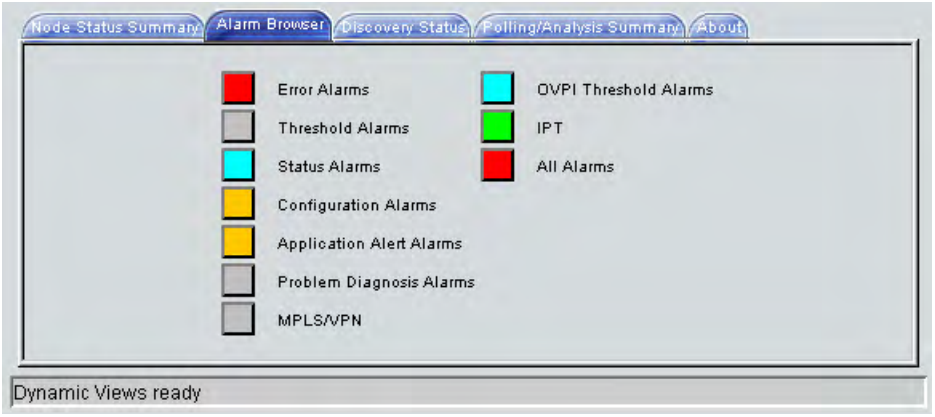
- Launching Reports from the Alarm Browser on page 41
- Launching Reports from a Dynamic View on page 45
- Launching Reports from a Submap on page 46

If you launch the PI report from a map or a view, the PI report contains data specific to the node that was selected. If you launch the PI report from the alarm browser, the PI report contains data specific to the node that caused the alarm.

Launching Reports from the Alarm Browser

Integrating NNM 7.5x and PI adds a new category of alarms, called OVPI Threshold Alarms, to the NNM alarm browser, as shown in Figure 1.

Figure 1 NNM 7.5x Alarm Browser



Displaying a List of Alarms

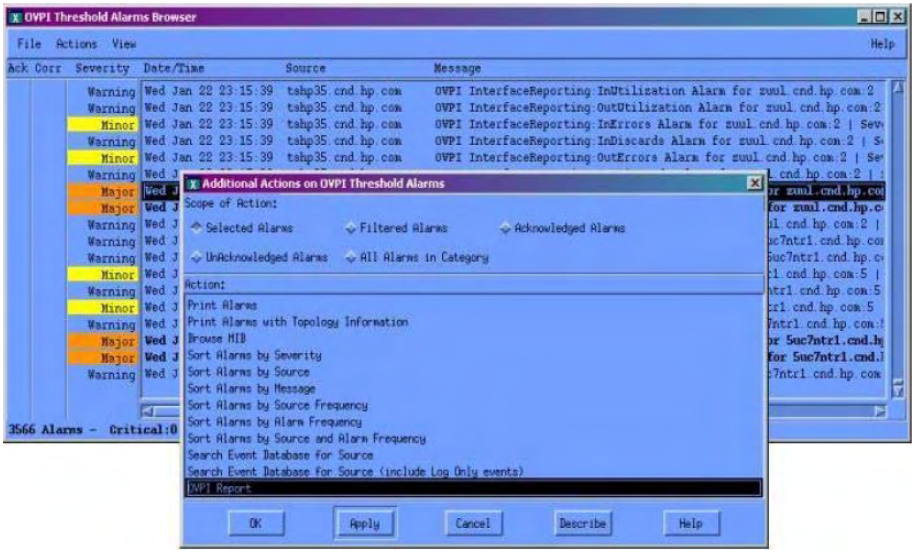
To display a list of alarms detected by PI, double-click **OVPI Threshold Alarms** in the NNM alarm browser.

Launching a PI Report

To launch a PI report, follow these steps:

1. In the NNM alarm browser, select an alarm.
2. Click **Actions→Additional Actions**.

   The Additional Actions window opens, showing a list of actions related to printing, sorting, and searching.



3. Scroll down to **OVPI Report** at the bottom of the list of actions.
4. Click **OK**.

   What display depends on how the node that caused the alarm is configured.

   If the node has an assigned PI OID, you see a report specific to that OID.

The alignment of PI reports to PI OIDs is spelled out in the following configuration file:

- *UNIX*

  `$OV_MAIN_PATH/newconfig/OVNNM-RUN/OvpiRptLauncher.conf`

- *Windows*

  `<install_dir>\conf\OvpiRptLauncher.conf`

If the node does *not* have a PI OID, the Report Launchpad window opens.

5 Select a report.

The report that opens contains performance data for the node that caused the alarm.

MIB Definition File

The Management Information Bases (MIB) definition file (`hpov-pi.mib`) contains useful background information about the alarms that display in the OVPI Threshold Alarms Browser.

The file is located in the following directory:

- *UNIX*

  `$OV_MAIN_PATH/newconfig/OVNNM-RUN/OVPI_INTEGRATION/hpov-pi.mib`

- *Windows*

  `<install_dir>\conf\OVPI_INTEGRATION\hpov-pi.mib`

Launching Reports from a Dynamic View

In Dynamic Views, you can display a list of alarms in the OVPI Threshold Alarms Browser.

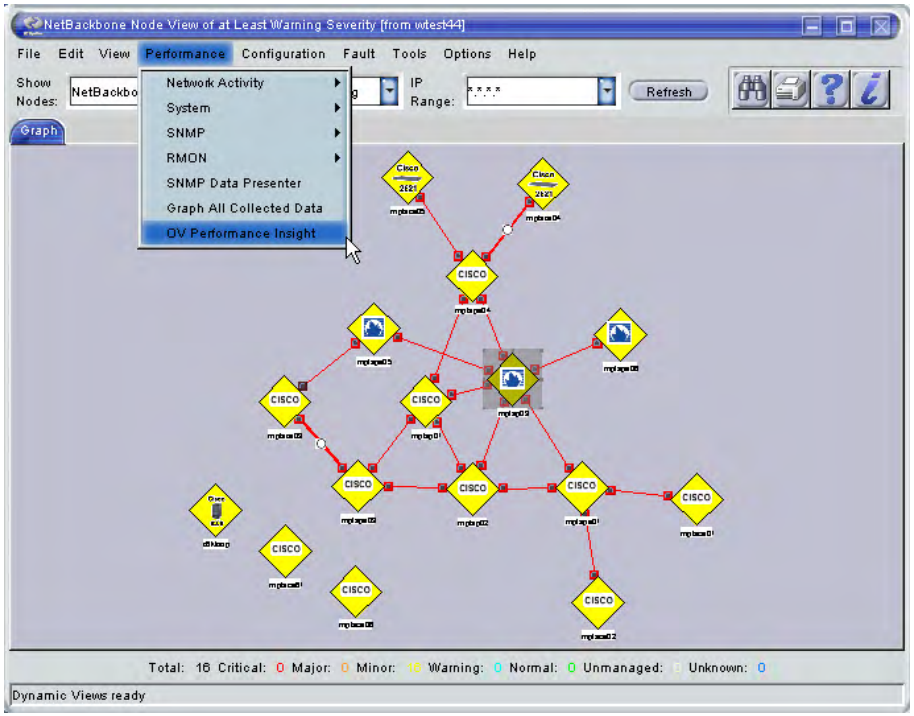
You *cannot* select an alarm and then launch a report by selecting **Actions→Additional Actions→OVPI Report**.

To launch a performance report from an NNM Extended Topology dynamic view, follow these steps:

1 Select a node.

2 Select **Performance→OV Performance Insight**.

The Report Launchpad opens.



3 Select a report and launch it.

The report is limited to performance data for the node you selected in Step 1.

Launching Reports from a Submap

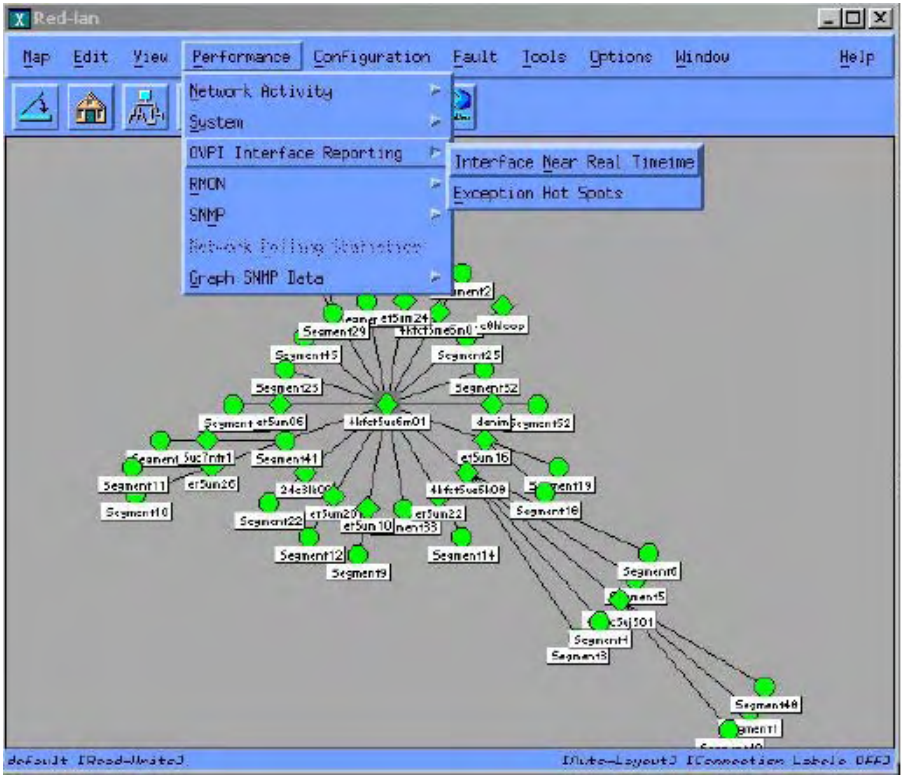
You can launch PI reports from an NNM 7.5x submap (ovw).

To launch a PI report from an NNM 7.5x submap, follow these steps:

1 Select a node.

2 Select **Performance→OVPI Interface Reporting→<*Report*>**.

When you launch a report, NNM 7.5x notifies PI of the device name. PI then launches a Report Launchpad window that displays a list of appropriate reports for that device.



3 From the Report Launchpad window, select a report.

The launched report contains performance data for the node you selected in Step 1.

6 Launching Reports from NNMi 8.xx

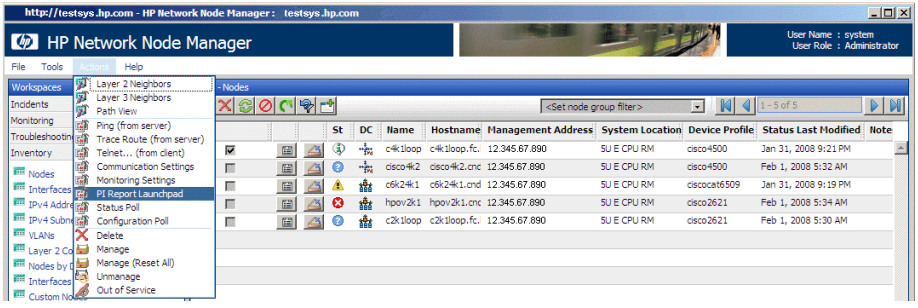
You can launch HP Performance Insight (PI) 5.40 reports from workspaces in the HP Network Node Manager i-series Software (NNMi) 8.xx console:

Launching a Report from the Inventory Workspace

If you launch a PI report from the Inventory workspace, the PI report contains data specific to the node that was selected.

To launch a PI report from the Inventory workspace, follow these steps:

1. Log on to the NNMi 8.xx console using administrative privileges.
2. From the workspace navigation panel, select the **Inventory** workspace.
3. Click **Nodes**.
4. Click the PI node for which you want a report.
5. From the Actions menu in the menu toolbar of the console, select **PI Report Launchpad**.



The Report Launchpad window for the selected node opens.

6 From the Report Launchpad window, select the report you want to launch.

A launched report contains information specific to the selected node.

Launching a Report from the Incidents Workspace

If you launch a PI report from Incidents workspace, the PI report contains data specific to the node that caused the incident.

To launch a PI report from Incidents workspace, follow these steps:

1 Log on to the NNMi 8.xx console using administrative privileges.

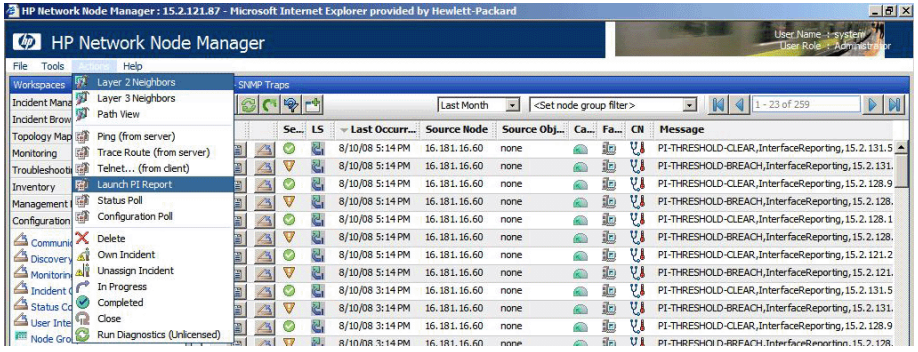
2 From the workspace navigation panel, select the **Incidents** workspace.

3 Click **SNMP Traps**.

4 Click to select a SNMP trap related to PI, where the value of the message is one of the following:

- `PI_THRESHOLD_BREACH`
- `PI_THRESHOLD_CLEAR`

5 From the Actions menu in the menu toolbar of the console, select **Launch PI Report** for the report that you want to view.



For example, if you have selected `PI_THRESHOLD_CLEAR` trap, you must select a corresponding clear trap report.

A launched report depends on the node and the threshold category that caused the incident.

A NNM 7.5x Scripts

This appendix describes the scripts used to integrate HP Performance Insight (PI) 5.40 with HP Network Node Manager (NNM) 7.5x.

getComm.ovpl

The `getComm.ovpl` script creates `$OV_TMP/nodeCommunity.txt`. This text file contains the node name and the community string information. The script is run every day or so, when a crone job is set up on the NNM 7.5x side.

The `getComm.ovpl` script extracts data from the topology database and creates the following file:

`$OV_TMP/nodeCommunity.txt`

The `nodeCommunity.txt` file includes the node name and the community string. The `getComm.ovpl` script has no further connection with `nodeList.ovpl` or `ovpiExport.ovpl`.

nodeList.ovpl

The `nodeList.ovpl` script is executed every time a node list is required on the PI side. The script is run through the web. It specifies the port on which the NNM 7.5x system is running. When executed, the `nodeList.ovpl` script sends an HTML request to the NNM 7.5x server.

The `nodelist.ovpl` script calls the `ovpiExport.ovpl` script, which retrieves the data needed and places it in a file called `$OV_TMP/insightExport.txt`. The content of `$OV_TMP/insightExport.txt` is encrypted and sent back to the PI system by using an HTTP request.

ovpiExport.ovpl

When you execute the `ovpiExport.ovpl` script, it performs the following:

- Exports NNM 7.5x topology and SNMP configuration information in the CSV format suitable for import into PI using `import_nodes`.
- Extracts the hostnames for SNMP-manageable devices from the NNM 7.5x topology.
- Pulls SNMP read string from `snmp.conf` database.
- Writes to `insightExport.txt` in the current directory, in the following format:
  - `name,read string,write string,snmp,,default`
  - `res001.esr.hp.com,public,public,snmp,,,default`

  For this writing to work, `ovtopmd` must be running.

You can execute the `ovpiExport.ovpl` script to provide data, based on a filter. The script creates an `$OV_TMP/insightExport.txt` file, into which the data of the nodes that match the filter are written.

install.ovpl

The `install.ovpl` script moves the ARF files that have been changed or are new from `OVPI_NNM_Integ` to `$OV_REGISTRATION`. You can run `install.ovpl` with a few options, such as **`-force`** or **`-force all`**.

B Troubleshooting

This appendix contains the following troubleshooting information:

- NNM 7.5x Issues
  - Node Synchronization Issues
    - Cannot Synchronize NNM 7.5x Nodes Automatically
    - Cannot Synchronize NNM 7.5x Nodes with Integration Wizard
  - ICO_RNS Issues
    - ICO_RNS Stops Unexpectedly on Windows
    - ICO_RNS Does Not Function on UNIX
- NNMi 8.xx Issues
  - piurlconf.ovpl Script Fails
  - Cannot Synchronize NNMi 8.xx Nodes with Integration Wizard

For more troubleshooting information, see the following:

- Related Documents on page 16
- Files Created by the Integration Wizard on page 35

NNM 7.5x Issues

This section provides troubleshooting information for issues related to the integration of HP Performance Insight (PI) 5.40 with HP Network Node Manager (NNM) 7.5x.

Node Synchronization Issues

This section describes problems and solutions related to node synchronization.

Cannot Synchronize NNM 7.5x Nodes Automatically

Problem

Currently, there is no way to determine whether NNM 7.5x nodes and PI nodes are synchronized.

Solution

Manually compare the node list of both NNM 7.5x and PI. If a node is deleted or not managed in NNM 7.5x, you must delete the node from PI manually to keep NNM 7.5x and PI nodes synchronized.

Cannot Synchronize NNM 7.5x Nodes with Integration Wizard

Problem

No nodes are obtained from the NNM 7.5x server when node synchronization is performed through the NNM-PI Integration Wizard.

Solution

Do the following:

1. Verify that the NNM 7.5x server is accepting requests on the port you specified.

   In a web browser, enter the following URL:

   http://*<hostname>*:*<port>*/OvCgi/nodeList.ovpl

   In this URL, ***<hostname>*** is the name of the NNM 7.5x management station, and ***<port>*** is the HTTP port number specified during the addition of the NNM server through the NNM-PI Integration Wizard:

   - For NNM 7.5x management stations running UNIX, the port number should be 3443.
   - For NNM 7.5x management stations running Windows, the port number should be 80.

   The output appearing in the web browser is encrypted.

2. Check the `$DPIPE_HOME/NNMPI_Wizard.log` file on PI machine for errors.

ICO_RNS Issues

ICO_RNS is a service that runs on an NNM 7.5x system. From a PI system, this service listens for HTTPS queries that are related to the NNM Event and Availability Report Pack.

ICO_RNS Stops Unexpectedly on Windows

Problem

On Windows, the ICO_RNS service stops for no apparent reason.

Solution

To run the service in the foreground, follow these steps:

1. Run the following:

   # cd <%OvInstallDir%>\lbin\ICO

2. Run the following:

   # set OVI_ENV=<%OvInstallDir%>
   \data\conf\ICO\RNS\ICO_RNS.env.win

3. Verify that OVI_ENV is set properly by running the following:

   # set

4. Stop the ICO_RNS service in the Services control panel (in case it is running following previous attempts to start it).

5. Run the following:

   # ICO.wsf -env "%OVI_ENV%"

   This command runs the service in the foreground, and opens another command prompt window displaying the message "Executing HP Interconnect".

6. Run the following:

   # netstat -an

7. Search the output for port 8092. If you can see an entry for port 8092, this confirms that the service is running normally.

8. The log file is located in the following directory:

   <%OvInstallDir%>/data/log/ICO/ICO_RNS.log

ICO_RNS Does Not Function on UNIX

Problem

On UNIX, the `ICO_RNS` service does not appear to be functioning properly.

Solution

Do the following:

- Stop and restart the service using the following commands:
  - To stop the `ICO_RNS` service, run the following:

    `ICO_ctl.ovpl -s`
  - To restart the `ICO_RNS` service, run the following:

    `ICO_ctl.ovpl -g`
- Check the log file for errors and exceptions:

  `/var/opt/OV/conf/ICO/RNS/IcoLogger_RNS.config`

NNMi 8.xx Issues

This section provides troubleshooting information for issues related to the integration of HP Performance Insight (PI) 5.40 with HP Network Node Manager i-series Software (NNMi) 8.xx.

piurlconf.ovpl Script Fails

Problem

The `piurlconf.ovpl` script fails.

Solution

Do the following:

1. Verify that the user name and password of the NNMi 8.xx administrator user account is correct.
2. Verify that the Jboss application server is running on the NNMi 8.xx server by executing the following command:

   ```
   ovstatus ovjboss
   ```

Cannot Synchronize NNMi 8.xx Nodes with Integration Wizard

Problem

No nodes are obtained from the NNMi 8.xx server when node synchronization is performed using the NNM-PI Integration Wizard.

Solution

Do the following:

1. Verify that the user name and password of the web service client user account is correct by logging on to the NNMi 8.xx console.
2. Verify that the NNMi 8.xx server is accepting requests on the port you specified during the addition of the NNMi 8.xx server through the NNM-PI Integration Wizard.

   The default HTTP port number used by the NNMi 8.xx server is 8004.
3. Verify that the Jboss application server is running on the NNMi 8.xx server by executing the following command:

   `ovstatus ovjboss`
4. Check the `$DPIPE_HOME/ NNMPI_Wizard.log file` on the PI server for errors.

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