NNMi–HPOM Integration for HP Operations Manager

for the UNIX® operating system

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User's Guide

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1 Introducing the NNMi–HPOM Integration

This guide describes how to install, configure and use the NNMi–HPOM integration on HP Operations Manager (HPOM) for UNIX management servers.

For details about installation and configuration tasks that you must carry out on HP Network Node Manager i-Series (NNMi) management servers, see the *HP NNM Software Deployment Guide*.

Overview

The NNMi–HPOM integration uses a web services-based integration module to forward incidents automatically from HP Network Node Manager i-series Software (NNMi) into the active messages browser in HP Operations Manager (HPOM) for UNIX server installations. The integration synchronizes incidents between NNMi and HPOM. It also provides easy access to the NNMi console from within HPOM.

NNMi–HPOM Integration: Three Main Components

The NNMi–HPOM integration consists of three main components:

- **NNMi Integration Module**

  The NNMi integration module forwards incidents from NNMi to HPOM. It is installed and configured on the NNMi management server.

  Installation and configuration requirements for the NNMi integration module are described in the *HP NNM Software Deployment Guide*.

- **HP Operations Manager Incident Web Service**

  HP Operations Manager Incident Web Service (IWS) provides the means by which incidents forwarded from NNMi are received by HPOM.

  IWS must be installed on the HPOM for UNIX management server. For installation and configuration requirements, see the *HP Operations Manager Incident Web Service Integration Guide.*

- **NNMi Forms, Views and Tools**

  Applications for accessing NNMi forms, views, and tools are integrated into HPOM, and are referred to as NNMi applications within the HPOM user interface. You need to configure the applications before you can use them. For configuration requirements, see the chapter Installation and Configuration Tasks for the NNMi–HPOM Integration on page 17.

Features of the Integration

- **Automatic Incident Forwarding**

  NNMi detects a network problem, processes and correlates it, and displays it in one or more of the NNMi incident views. You can configure NNMi to forward incidents automatically to one or more HPOM management servers. You can also configure filters that limit the criteria under which NNMi forwards incidents to HPOM.

  The forwarded incidents appear in the HPOM active messages browser. These messages in the HPOM browser are associated with the original incidents reported in NNMi.

- **Launch the NNMi Console**

  From within HPOM, you can launch the NNMi console showing the original incident. You can do this in the context of an incident forwarded from NNMi and in the context of an NNMi node that is set up as a managed node in HPOM.

  For the HP NNM 7.x integration, it was a requirement to deploy an agent from the HPOM management server to the NNM management server. For the new NNMi integration, it is no longer essential to do so.

  Each NNMi incident has a unique identifier. Even where HPOM is consolidating NNMi incidents across multiple NNMi server installations, you can trace a particular incident back to its origin in NNMi and investigate it.

- **Launch NNMi Applications**

  You can launch applications for accessing NNMi forms, views, and tools from the HPOM user interface to assess the network status. The applications provided by the integration are listed in Table 1 on page 10.

Applications Provided by the Integration

There are a number of NNMi forms, views and tools that are integrated into HPOM for UNIX 8.30. These appear as applications in the HPOM console, and are divided into four application groups, as shown in Table 1:

Table 1 NNMi Applications by Group

Group Name	Comment
NNMi/By Incident	Applications in this group require an incident (or message) context to run them. All the information required (incident identifier, source NNMi server name, and port number) is contained in the message forwarded to the HPOM message browser. Therefore, when you have installed IWS, and upgraded your HPOM system to version A.08.30 or higher to integrate NNMi, no further configuration is required.
NNMi/By Node (<*short host name*>)	Applications in this group require a node context to run them.
NNMi/General (<*short host name*>)	Applications in this group are for the use of general NNMi functions, such as starting the NNMi Console, looking at open incidents, or checking the status of NNMi processes and services. No context is needed to run these applications.
NNMi Int-Admin	This group contains an application, `Create Server Apps`, to create additional NNMi applications (those in groups `By Node` and `General`) for a specific NNMi server from the HPOM console.

Before you can use the applications in the `By Node` and `General` groups, you need to install them by specifying the NNMi host name and port number.

For installation instructions, see Installing Additional NNMi Applications on page 20.

For details of how to create additional NNMi applications in HPOM, see Create Additional Applications from the HPOM Console on page 22.

The available NNMi applications are listed by group in the following tables. For more details about NNMi forms, views and tools, see the *HP Network Node Manager Online Help*.

Applications in the By Incident Group

NNMi applications in the `By Incident` group are listed in Table 2.

Table 2 Applications in the By Incident Group

Application	Action Performed
Incident Form	Launches an Incident Form corresponding to the selected message in a web browser.
Layer 2 Neighbors	Launches a Troubleshooting View in a web browser, showing the Layer 2 Neighbors of the node from which the corresponding NNMi incident originated.
Layer 3 Neighbors	Launches a Troubleshooting View in a web browser, showing the Layer 3 Neighbors of the node from which the corresponding NNMi incident originated.
Node Form	Launches a Node Form in a web browser, showing the NNMi setup information for the node from which the corresponding NNMi incident originated.

Applications in the By Node Group

NNMi applications in the `By Node` group are listed in Table 3.

Table 3 Applications in the By Node Group

Application	Action Performed
Comm. Configuration	Launches the real-time results of the ICMP and SNMP configuration report in a web browser, showing the communication configuration of a selected node.
Configuration Poll	Launches the configuration poll of a selected node, showing the real-time results of a node's configuration in a web browser.
Layer 2 Neighbors	Launches a Troubleshooting View in a web browser, showing the Layer 2 Neighbors of a selected node.
Layer 3 Neighbors	Launches a Troubleshooting View in a web browser, showing the Layer 3 Neighbors of a selected node.
Node Form	Launches a Node Form in a web browser, giving details about the selected node for troubleshooting purposes.
Ping	Launches the ping command and shows the real-time results of the ping from the NNMi server to a selected node in a web browser.
Status Poll	Launches the real-time check and results of a node's status in a web browser.
Traceroute	Launches the real-time results of the Trace Route command in a web browser.

Applications in the General Group

NNMi applications in the `General` group are listed in Table 4.

Table 4 Applications in the General Group

Application	Action Performed
My Incidents	Launches the My Open Incidents view in a web browser.
NNMi Console	Launches the NNMi console.
NNMi Status	Launches a report of the current status of all NNMi server processes and services in a web browser.
Open RC Incidents	Launches the Open Root Cause Incidents view in a web browser.
Sign In/Out Audit Log	Displays the current configuration for a node in a web browser (tracks log on and log out activity for each user account).

Synchronization of Incident Updates

When configured to do so, NNMi forwards incidents to one or more HPOM servers. NNMi will **acknowledge** or **unacknowledge** an incident to one or more HPOM installations if that incident's lifecycle state changes to or from **closed**, respectively. Updates to these forwarded incidents are sent from the HPOM server back to the NNMi server to synchronize the lifecycle state of the incident.

Incident lifecycle state changes are synchronized from NNMi to HPOM and back to NNMi as follows:

Trigger	**Result**
In HPOM, the message is acknowledged.	In NNMi, the corresponding incident's lifecycle state is set to Closed.
In HPOM, the message is unacknowledged.	In NNMi, the corresponding incident's lifecycle state is set to Registered.
In NNMi, the incident's lifecycle state is set to Closed.	In HPOM, the corresponding message is acknowledged.
In NNMi, the incident's lifecycle state is changed from Closed to any other state.	In HPOM, the corresponding message is unacknowledged.

Supported Versions

The information in this guide applies to the following product versions:

- HPOM for UNIX version 8.30 or higher
- NNMi version 8.03 or higher.

For up-to-date information on the latest supported platforms and versions, see the support matrices at the following location:

http://support.openview.hp.com/selfsolve/document/KM323488

NNMi and HPOM must be installed on separate computer systems. The operating system of the NNMi management server and the HPOM management server are independent of each other. They can use the same operating system, but this not a requirement. For example, an NNMi management server may have an HP-UX platform, while the HPOM management server has a Windows operating system.

2 Installation and Configuration Tasks for the NNMi–HPOM Integration

Installation and Configuration Tasks

Before you can use the features of the NNMi–HPOM integration, you first need to perform the following installation and configuration tasks:

1. On the HPOM for UNIX management server, install the HP Operations Manager Incident Web Service (IWS).

   For details about installing and configuring IWS, see the *HP Operations Manager Incident Web Service Integration Guide*.

2. If you have not already done so, upgrade your HPOM system to version A.08.30 or higher by installing the appropriate patch for the integration that includes the application installation script. The minimum patch levels are as follows:

   — Patch for HP-UX 11.X PA-RISC: PHSS_38201

   — Patch for HP-UX 11.X IA-64: PHSS_38200

   — Patch for Solaris: ITOSOL_00673

   See the support matrix at HP Software Support Online for details of the latest patches for your software version at the following location:

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

3. On the NNMi management server, follow these configuration steps:

   a. Make sure that the most recent consolidated NNMi patch is installed. See the support matrix at HP Software Support Online for details of relevant patches for your software version at the following location::

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

   a. Customize the NNMi–HPOM configuration file.

   b. Enable the NNMi–HPOM integration module.

Refer to the *HP NNM Software Deployment Guide* for details.

4 In HPOM, create a managed node for each NNMi node that will be named as a source node in the NNMi incidents that are forwarded to this HPOM management server. Also create a managed node for each NNMi management server that will forward incidents to this HPOM management server.

Alternatively, you can create one external node to catch all forwarded NNMi incidents.

For more information, see the *HP Operations Manager for UNIX Administrator's Reference*.

Make sure that the NNMi nodes, from which the corresponding NNMi incidents originated, are configured in the HPOM database. If you do not set up these NNMi nodes in the HPOM database, then all incidents forwarded from the NNMi server will be discarded by the HPOM management server.

5 On the HPOM system, install the basic set of NNMi applications.

For details, see Installing the Basic Set of NNMi Applications on page 19.

6 *Optional*. On the HPOM system, install additional NNMi applications.

For details, see Installing Additional NNMi Applications on page 20.

Installing the Basic Set of NNMi Applications

Before you can use the NNMi–HPOM integration, you first need to install the basic set of NNMi applications.

To install the basic set of NNMi applications on the HPOM system, follow these steps:

1. Run the following script:

   `/opt/OV/contrib/OpC/NNMi-Appls/create_nnm_appls.sh -init`

2. This script installs the following applications groups in the main NNMi applications group:

   — Applications group `By Incident` (see Applications in the By Incident Group on page 11).

   — Applications group `NNMi Int-Admin`. This group contains an application to create additional NNMi applications (see Create Additional Applications from the HPOM Console on page 22).

3. Assign the applications group `NNMi Int-Admin` to the administrator account.

4. Assign the applications group `NNMi` to the responsible operators.

Installing Additional NNMi Applications

You can also install additional applications in the main NNMi applications group. The additional applications are:

— Applications group `General` (see Applications in the General Group on page 13).

— Applications group `By Node` (see Applications in the By Node Group on page 12).

You can install the additional applications for a specific NNMi management server using one of the following methods:

- Using the NNMi application installation script.
- Using the `Create Server Apps` application from your HPOM console.

During installation, you need to specify the NNMi host name and port number of the desired server node.

NNMi Application Installation Script

HPOM provides an NNMi application installation script that lets you install the additional applications. You can execute the script with or without specifying the server parameters.

If you want to choose your own short host name for labeling the applications group you are installing, execute the script without entering the server parameters.

Running the Script With the Server Parameters

Run the script:

`/opt/OV/contrib/OpC/NNMi-Appls/create_nnm_appls.sh <fully qualified host name> <server port number>`

This script specifies the fully qualified host name and the server port number.

The applications group is created in the main NNMi group, and is identified by the short host name. The short host name is created automatically using the first part of the fully qualified host name (truncated at the first dot).

Running the Script Without the Server Parameters

1. Running the script:

   /opt/OV/bin/OpC/utils/NNMi-Appls/create.nnm.appls.sh

2. Enter all the necessary information for the specific NNMi server system as prompted (full qualified host name, a short host name, and the port name).

   You are free to choose your own short name.

   An example run of the script is shown here:

```
>create_nnm_appls.sh
Full qualified name of the NNMi system:
nnmsv1.example.com

Short name of the NNMi system [nnmsv1]:
Server 1

Port to access the NNMi system [8004]:
8004


================================================================
System Name: nnmsv1.example.com
Short Name:  Server 1
Port:        8004
================================================================

Are these parameters correct?
Press [ENTER] to proceed or [^C] to cancel.

Done
```

3. Verify that the information you entered is correct, and press **ENTER** to install the applications.

   The application group is created in the main NNMi group, and is identified by the short host name. An administrator can move the group to a more suitable place if desired.

4. Assign the created applications or application groups to the appropriate operators.

Operators might be required to reload the configuration in open operator user interfaces (**File** → **Reload Configuration**).

Create Additional Applications from the HPOM Console

If you want, you can install the additional applications from the HPOM console by using the **Create Server Apps** application.

1. In the HPOM console, double-click **Applications**, and then double-click **NNMi Int-Admin**.
2. Right-click **Create Server Apps** and select **Start Customized**.

If you try to start the **Create Server Apps** application by double-clicking, an error is reported the output window.

3. In the dialog box that opens, select the node where you want to run the application. Then click **Next>** to continue.
4. Enter additional information needed to run the application.

   In the **Additional Parameters** field, enter the fully qualified host name of the NNMi server and its port number. Click **Finish**.
5. Select **File** → **Reload Configuration**.

   The Configuration Status window opens. Click **OK** when the reload is done.

   The applications group is created in the main NNMi group, and is identified by the short host name. The short host name is created automatically using the first part of the fully qualified host name (truncated at the first dot).

Configuring Web Browser Settings

You should configure the web browser settings for the console as follows:

- **Windows platforms**

  Configure the console to always use either an external web browser or the Internet Explorer ActiveX control.

- **Other platforms**

  Configure the console to always use an external web browser.

Use a web browser that is supported for use with HP NNMi 8.

To check or change the web browser settings for the console:

1. In the Toolbar, click **Edit**, then click **Preferences**.
2. Click the **Web Browser** tab in the Preferences dialog box.
3. Select the browser settings as appropriate for your platform.
4. Click **OK**.

3 Using the NNMi Applications

Launching NNMi Applications from the HPOM Console

The applications listed in the section Applications Provided by the Integration on page 10 can be run after installation (see Installing Additional NNMi Applications on page 20).

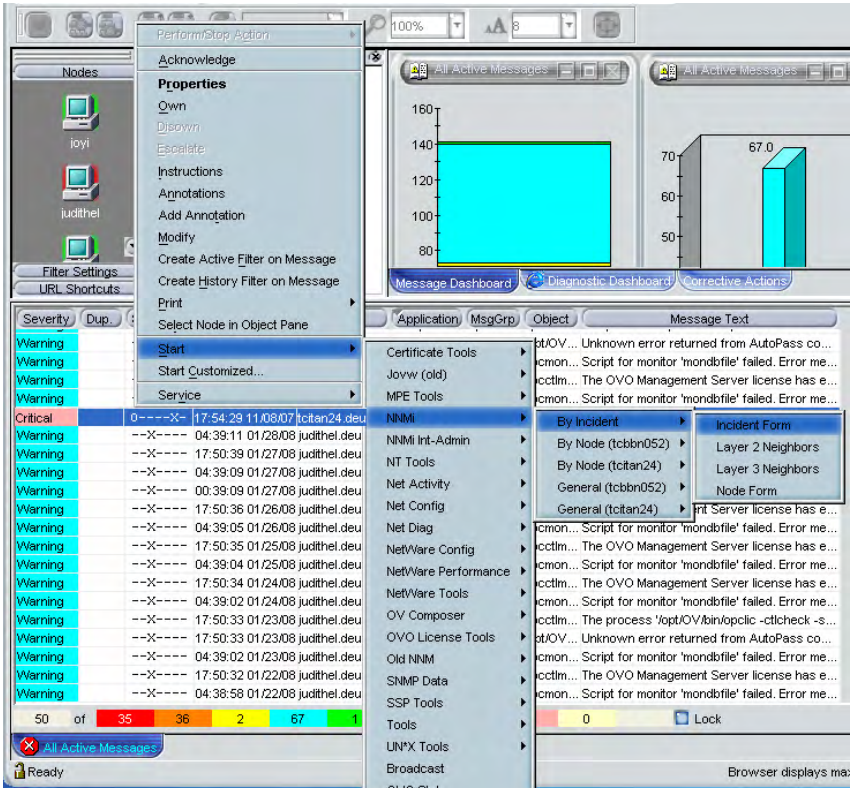
Examples of how to use the applications follow.

Launching an NNMi Incident Form

You can launch an NNMi Incident Form from your HPOM console.

1 Select a message forwarded from NNMi from the list of messages in the HPOM Message Browser.

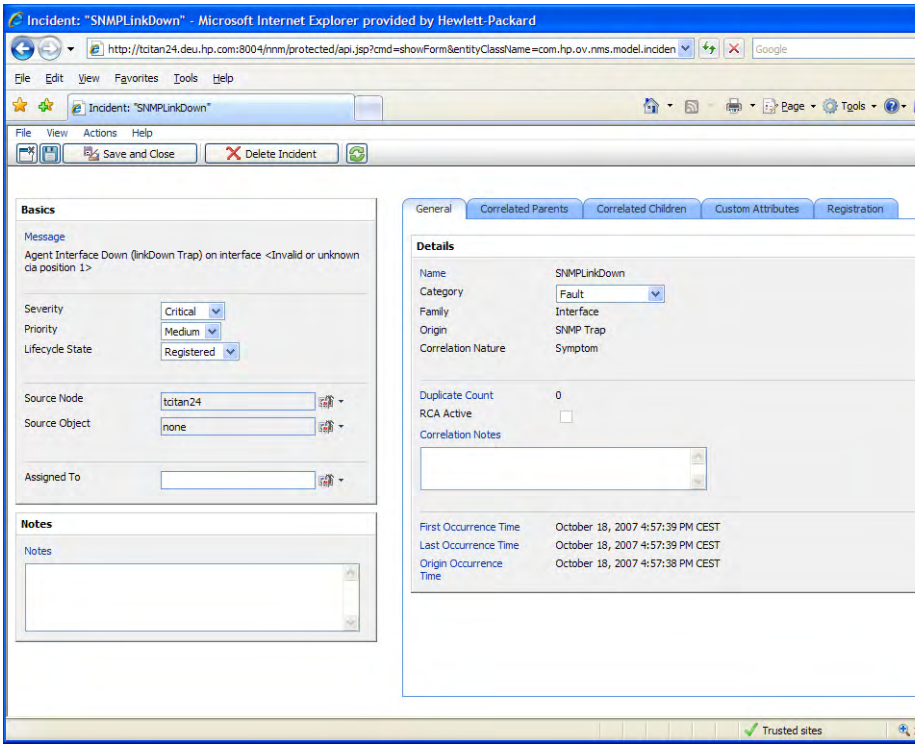
2 Right click the message, then select **Start** → **NNMi** → **By Incident** → **Incident Form**.



The log-in screen for NNMi opens the first time you run an application.

3 Enter the User Name and Password and then click **Sign-In**.

The NNMi Incident Form opens.



Launching the NNMi Console

To launch the NNMi console from the HPOM user interface:

1. Select **Applications** → **NNMi**.
2. Then select **General (<host>)**, where <host> is the short host name of the specific NNMi server node.
3. Select **NNMi Console**. The log-in screen for NNMi opens.

   Enter the **User Name** and **Password** and then click **Sign-In** to open the NNMi console.

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