HP OpenView Performance Insight

Network Node Manager Report Pack User Guide

Software Version: 1.0

Reporting and Network Solutions 6.0

August 2004

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contents

1

Overview

This chapter covers the following topics:

OVPI and NNM Event Data

The NNM Event Report Pack provides trending analysis for event data collected from NNM stations. NNM uses the following attributes to define an event:

- Category
- Severity
- Device
- Device Type
- Vendor
- Customer

By aggregating event data, the NNM Event Report Pack allows you to see event data summarized in helpful ways. You can use the vendor report to compare vendors, you can use the category and severity reports to find out which devices are causing the most alarms and how actual service compares to expected service levels, and you can rank alarms by severity, If desires, this information can be shared with your customers.

Folders and Reports

When you install the NNM Event Report Pack, OVPI creates the NNM_Report directory. This directory has two child directories:

- Availability
- Event

The **Availability** directory contains:

- Detailed Availability
- Availability Forecast by Customer
- Availability Forecast by Vendor
- Availability SLA

The **Event** directory contains multiple subdirectories:

- General
- Category
- Severity
- Consolidated

General

The General directory contains:

- Event Summary by Customer
- Event Summary by Device Type
- Event Summary by NNM Station
- Event Summary by Vendor
- Event Summary by Customer
- Executive Summary by Vendor
- Forecast by Category

Category

The Category directory contains:

- NNM Event Summary by Category and Device
- NNM Event Summary by Category and Device Type
- NNM Event Summary by Category and Severity
- NNM Event Summary by Category and Vendor

Severity

The Severity directory contains:

- NNM Events by Severity and Category
- NNM Events Summary by Severity and Device
- NNM Event Summary by Severity and Device Type
- NNM Event Summary by Severity and Vendor

Consolidated

The Consolidated directory contains:

- NNM Events by Category
- NNM Events by Severity
- Executive Summary by Category
- Executive Summary by Severity
- Hot Spot Report

Ways to Customize Reports

The contents of a report can be customized by applying group filters, by editing parameters, by editing tables and graphs, and by importing customers. If you apply a group filter, you are filtering out data for the purpose of creating customer-specific reports. If you edit a table, graph, or parameter, you are making a temporary change to a report.

Group Filters

If you intend to share your reports with customers, or if you want divisions within your enterprise to see division-specific performance data, your reports must be customer-specific, containing data limited to one customer. Creating customer-specific reports involves the following steps:

- Importing custom property information (customer names and device locations) using Common Property Tables 3.0
- Creating a group account for all of the users affiliated with a particular customer
- Creating a group filter for the group account

For more information about creating filters for group accounts, refer to the *HP OpenView Performance Insight 5.0 Administration Guide*.

Editing Parameters

Editing a parameter applies a constraint that eliminates the data you are not interested in seeing. The NNM Report Pack supports the following parameters:

- Category
- Category ID
- Customer
- Customer ID
- Device
- Device Type
- NNM Station
- Severity

- Severity ID
- Vendor

If you are using Report Viewer, follow these steps to edit a parameter:

1. Select **Edit** → **Parameter Values** from the menu bar.
2. When the Modify Parameter Values window appears, click the **Current Value** field.
3. Enter a new value.
4. Click **OK**.

If you are viewing the report remotely, follow these steps:

1. Click  (the Edit icon) at the bottom right-hand corner of the report.
2. When the Edit Parameters window opens, type the constraint in the appropriate field.
3. Click **Submit**.

Sources for Additional Information

This user guide provides a subset of sample reports, while the demo package for the NNM Event Report Pack contains a sample of every report in the package. If you have access to the demo package and you want to see what fully populated reports look like, install the demo package. For information regarding the latest enhancements to NNM Event Report Pack 1.0 and any known issues affecting this package, refer to the *NNM Event Report Pack 1.0 Release Statement*. You may also be interested in the following documents:

- *Common Property Tables 3.5 User Guide*
- *Reporting and Data Analysis with Network Node Manager*
- *Managing Your Network with HP OpenView Network Node Manager*

Manuals for the core product, OVPI, and manuals for the reporting solutions that run on OVPI are available for downloading from the following site:

http://www.hp.com/managementsoftware

Select **Technical Support > Product Manuals** to open the **Product Manual Search** page. Manuals for OVPI are listed under **Performance Insight**. Manuals for report packs, datapipes, and value-add components for NNM are listed under **Reporting and Network Solutions**.

Every title listed under **Reporting and Network Solutions** indicates the manual's month and year of publication. If a user guide is revised and reposted, the date of publication will change even if the software version number does not change. Since updated user guides are posted to this site on a regular basis, you should search this site for updates before using an older PDF that may not be the latest PDF available.

2

Package Installation

This chapter covers the following topics:

Integrating NNM and OVPI

NNM Event Report Pack 1.0 cannot function unless your NNM server is integrated with your OVPI server. If server integration has not taken place yet, do it now. Integrating NNM and OVPI starts with installing the NNM/Performance Insight Integration Module 2.0. This module includes NNM components for your NNM server and OVPI components for your OVPI server. For details, refer to the *NNM/Performance Insight Integration Module 2.0 User Guide*.

If your operating systems is Windows, installing the Integration Module installs a Windows service called `ICO_RNS` that moves event data from NNM to OVPI. Although the installation process creates the service and sets its start status to *automatic*, it does not actually start the service. You must start the service manually the first time you run it. Later, whenever the machine is restarted, ICO_RNS will start automatically.

If your operating system is UNIX, there are no services that need to be started manually the first time.

Prerequisites Related to OVPI

Following is a list of software that must be running on your OVPI server before installing the NNM Event Report Pack 1.0:

- OVPI 5.0 installed on you OVPI server
- Any available OVPI 5.0 service pack installed on your OVPI server
- Common Property Tables 3.0 or higher installed on your OVPI server

Installing NNM Event Report Pack 1.0

Perform the following tasks to install NNM Event Report Pack 1.0:

- Task 1: Stop OVPI Time and extract report packs from the RNS 6.0 CD
- Task 2: If necessary, upgrade Common Property Tables
- Task 3: Install NNM Event Report Pack 1.0

Task 1: Stop OVPI Timer and extract OVPI packages from the RNS 6.0 CD

1. Log in to the system. On UNIX systems, log in as root.
2. Stop OVPI Timer and wait for processes to terminate.

   Windows: Select **Control Panel > Administrative Tools > Services**

   UNIX: As root, do one of the following:

   HP-UX: **`sh /sbin/ovpi_timer stop`**

   Sun: **`sh /etc/init.d/ovpi_timer stop`**
3. Insert the RNS 6.0 CD. Do one of the following:
   - On *Windows*, run the `setup.bat` command if auto run is disabled. If outrun is enabled, a Main Menu appears.
   - On *UNIX,* mount the CD manually if the CD does not mount automatically, then run the `setup` command.
4. Type **1** to **s**elect OVPI report packs in the choice field and press **Enter**. The install script displays a percentage complete bar. When extraction is complete, the install script starts Package Manager. The Package Manager Welcome window opens.

If you navigate to the Packages directory on your system, you will see the following directories under the NNM Event Report Pack directory:

- NNM_Event.ap
- NNM_Event_Demo.ap

Installing the demo package is optional. You may install the demo package by itself, or you may install the demo package along with the other packages.

Task 2: Upgrade Common Property Tables

If you are running an older version of Common Property Tables, you must upgrade to Common Property Tables 3.0 or higher. Installing the upgrade package is no different from installing other upgrade packages; however, you cannot install the upgrade for Common Property Tables *and* other packages at the same time. Install the upgrade package for Common Property Tables and *only* the upgrade package for Common Property Tables. When Package Manager displays a message indicating that the installation is complete, click **Done** to return to the Management Console.

Task 3: Installing NNM Event Report Pack 1.0

1. Start Package Manager. The Package Manager welcome window opens.

2. Click **Next**. The Package Location window opens.
3. Click **Install.** Approve the default installation directory or use the browse feature to select a different directory, if necessary.
4. Click **Next**. The Report Deployment window opens. Accept the default settings for Deploy Reports; also accept the defaults for application server name and port in the same window.
5. Enter your username and password for the OVPI Application Server.
6. Click **Next**. The Package Selection window opens.
7. Select the check box next to the following package names:

   CommonPropertyTables 3.5

   NNM_Event 1.0

   NNM_Event_Demo 1.0
8. Click **Next**. The Type Discovery window opens.
9. To run Type Discovery immediately after package installation, *unselect* Type Discovery and click **Next**. The Selection Summary window opens.
10. Click **Install**. The Installation Progress window opens and the install process begins. When the install process is complete, an installation complete message appears.
11. Click **Done** to return to the Management Console.
12. Restart OVPI Timer.

Options for Viewing Reports

Before reports can be viewed using a Web browser, they must be deployed. Enable the Deploy Reports option during installation of NNM Event Report Pack. Then the reports are deployed and available for remote viewing.

The method of report viewing available to the user depends on how OVPI was installed. If the client component is installed on the user's system, the user has access to Report Viewer, Report Builder, and the Management Console. If the client component is not installed on the user's systems, viewing reports on the web is the only way this user can view reports.

For more information about the client component, refer to the *Performance Insight Installation Guide*. For more information about deploying, viewing, and undeploying reports, refer to the *Performance Insight Guide to Building and Viewing Reports*.

Package Removal

Follow these steps to uninstall NNM Event Report Pack 1.0:

1. Log in to the system. On UNIX systems, log in as *trendadm*.
2. Stop OVPI Timer and wait for processes to terminate.
3. Start Package Manager. The Package Manager welcome window opens.
4. Click **Next**. The Package Location window opens.
5. Click the **Uninstall** radio button.

6 Click **Next.** The Report Undeployment window opens.

7 If NNM Event Report Pack reports were deployed from this server, accept the defaults for Undeploy Reports, Application Server Name, and Port. Otherwise, clear the check box and skip to step 9.

8 Type your username and password for the OVPI Application Server.

9 Click **Next.** The Package Selection window opens.

10 Click the check box next to the following packages:

NNM_Event 1.0

NNM_Event_Demo 1.0

11 Click **OK.**

12 Click **Next**. The Selection Summary window opens.

13 Click **Uninstall.** The Progress window opens and the removal process begins. When the uninstall process is complete, a package removal complete message appears.

14 Click **Done** to return to the Management Console.

15 Restart OVPI Timer.

3

Provisioning NNM Management Stations

This chapter covers the following topics:

- Adding and Modifying Properties
  - Using bulk import
  - Using forms bundled with the NNM Event Report Pack
- Changing the HTTP Port Number of OVI on NNM
- Synchronizing Node or Category Information
- Changing OV NNM Events Data Tool
- Checking Collection Failures

A list of NNM stations is required to collect event and availability data. There are two ways to produce this list: bulk import and OVPI forms.

Adding and Modifying Properties

Property information comes from the following sources:

- Forms bundled with the NNM Event Report Pack
- Common Property Tables batch-mode property import
- Common Property Tables (Device, Customer, Vendor)
- Category List Table
- NNM List Table
- NNM List Tables “add new” and “update” forms
- Category List Table “add new” and “update” forms
- Automatic feed from the network

If you have customers associated with specific devices or specific interfaces, or if you have vendors associated with specific devices, use Common Property Tables to import this information.

Bulk Import

To import a list of NNM Stations using bulk import, perform these tasks:

- Task 1: Creating the NNM station list file
- Task 2: Importing the NNM station list file
- Task 3: OVPI data collection

Task 1: Creating the NNM station list file

Create a property parameter file `NNM_List.dat` in the directory `$DPIPE_HOME/data/PropertyData/NNM_Event/` when bulk import of NNM stations is to be done or a set of NNM stations for collection is required. To import one NNM station, use forms as described in Using Forms on page 17

Format of the data is as follows:

<nnm_station_1><tab><ovi_port_number>

<nnm_station_n-1><tab><ovi_port_number>

<nnm_station_n><tab><ovi_port_number>

Example:

nnm1.hp.com 8092

nnm2.hp.com 8092

nnmn.hp.com 8092

The default OVI port number is 8092.

Change this port number only if you have changed the port number for the CommandResponder pluglet of OVI.

Task 2: Import the NNM station list

To import the NNM Station list, run the NNM List Importer tool

```
$DPIPE_HOME/bin/trend_proc -f $DPIPE_HOME/scripts/NNM_Event_import_nnm.pro
```

The tool imports the `NNM_List.dat` to the OVPI database. The imported list is now ready for data collection.

Errors are logged to: `$DPIPE_HOME/log/trend.log`

Task 3: Data collection

Once the NNM Stations list is provisioned, the system is ready for collection. During the first collection, the data collection tool will automatically:

1. Get the nodes from NNM with Device Type, Vendor and Category information.
2. Get data for the last two days from the NNM Station or as available in NNM, whichever is lower.

3 Put the category list into OVPI.

By default, the data collection is done every 1 hour. The data aggregated by NNM is at the periodicity (polling granularity) of 15 minutes.

Using Forms

This section describes the following forms:

- Add or Update NNM List
- Remove NNM Station
- Add or Update Category Information
- Remove Alarm Category
- Update Availability Threshold

Use these forms to create, update or remove property data.

To launch a form, click the **Objects** icon in the panel on the left side of the Management Console window. The Object/Property Management view opens. Object Manager shows a list of objects. The type of object presented depends on which Object Manager View is open. The default view is the Device view, showing a list of devices. To change the view, select **View > Change View** and use the pop-up window to select a different view. Once the type of object you are interested in updating is displayed, select the particular object you would like to update.

When you select the object, **Object Specific Tasks** will appear in the window on the right. Double-click and open the form. Click **Apply** to save changes, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.

Add or Update NNM List

Use the Add or Update NNM List form to add or modify the following:

- OVPI port number
- Polling interval
- Polling granularity
- HTTP timeout

Follow these steps to update an NNM station:

1 Launch the Management Console.

2 Click the **Objects** icon. The Add or Update NNM List form appears under **General Tasks.** Navigate to the NNM station you want to update, then double-click the Add or Update NNM list form.

3 Highlight the row that contains the data you want to change.

4 If required, change the Polling Granularity and then change the following entry in the `$DPIPE_HOME/trendtimer.sched`:

```
01:00 - - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/NNM_Event.pro
```

For example, if Polling Interval is 180 mins, then change the entry as shown below:

```
03:00- - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/NNM_Event.pro
```

Polling Granularity is the result of duration units divided by Polling Interval. For a given Polling Interval, events data collected can be aggregated over smaller units of duration (called Polling Granularity). For example, if Polling Interval is 60 mins, then Polling Granularity can have values such as 30, 60, and 180 mins.

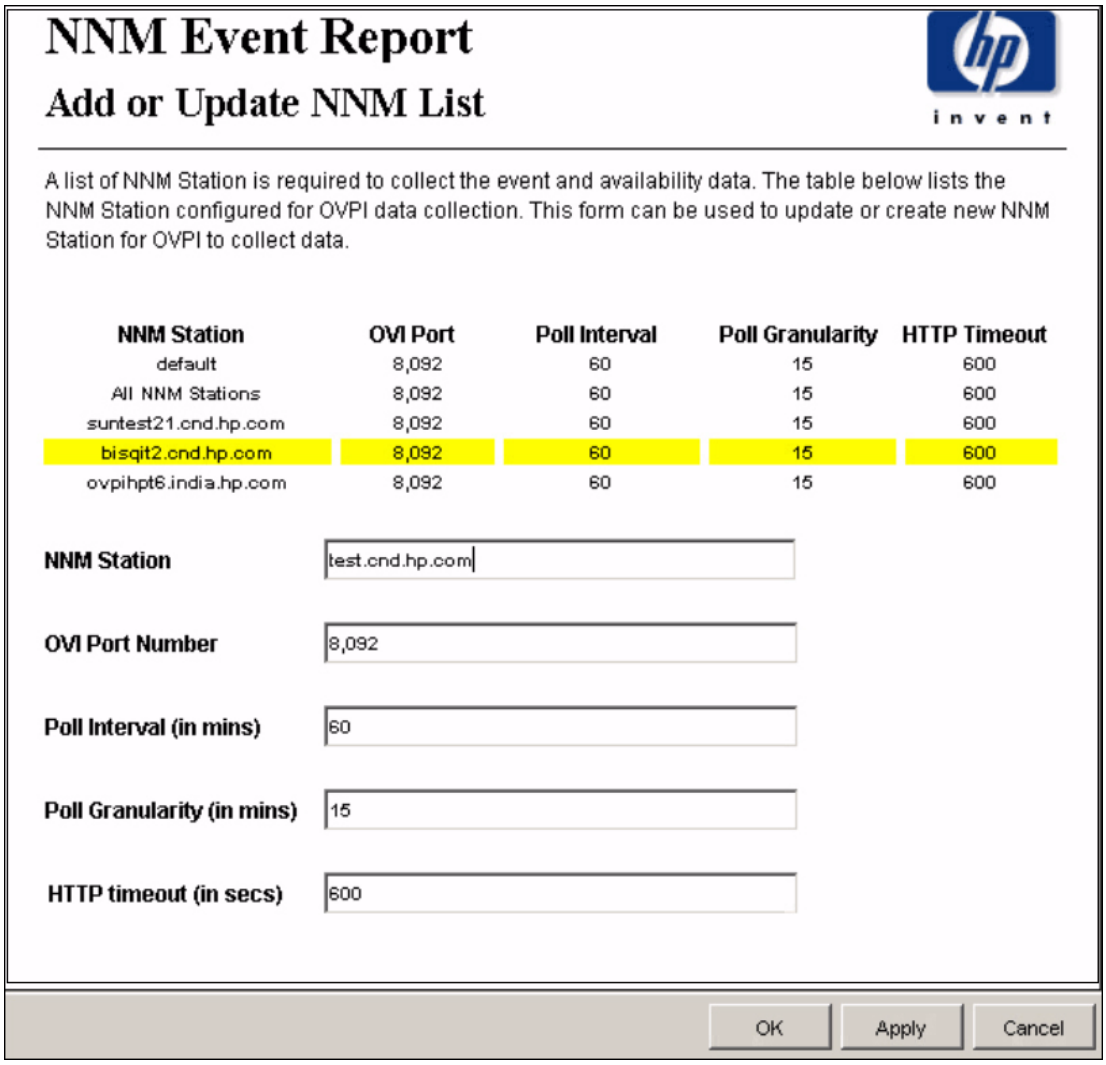
5 Make the changes. Click **Apply** to save changes, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.

Follow these steps to add a new NNM station:

1 Select any row.

2 Enter the name of the NNM station in the NNM Station field. Change other values as required.

3 Click **Apply** to save changes, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.



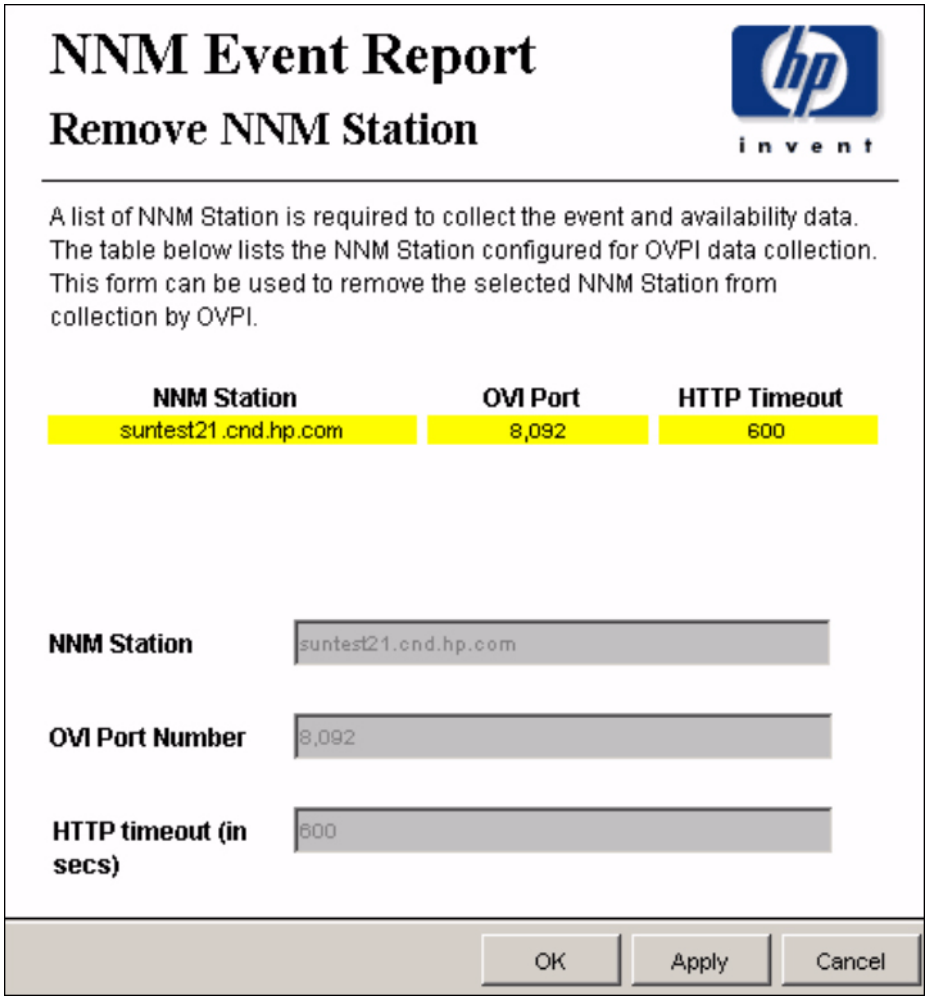
Remove NNM Station

Follow these steps to remove a single NNM station:

1. Launch the Management Console.
2. Open the Object/Property Management view. Select **View > Change View** and use the pop-up window to select OV NNM view. The NNM stations are listed here.
3. Select the NNM station you want to remove.
4. Double-click the Remove NNM Stations form under **Object Specific Tasks**. The form opens, showing NNM stations configured for OVPI data collection.
5. Highlight the row that contains the NNM station that you want to remove.

   Once you remove an NNM station, that NNM station will stop collecting data. Existing data is still available.

6. Click **Apply** to remove the NNM station, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.



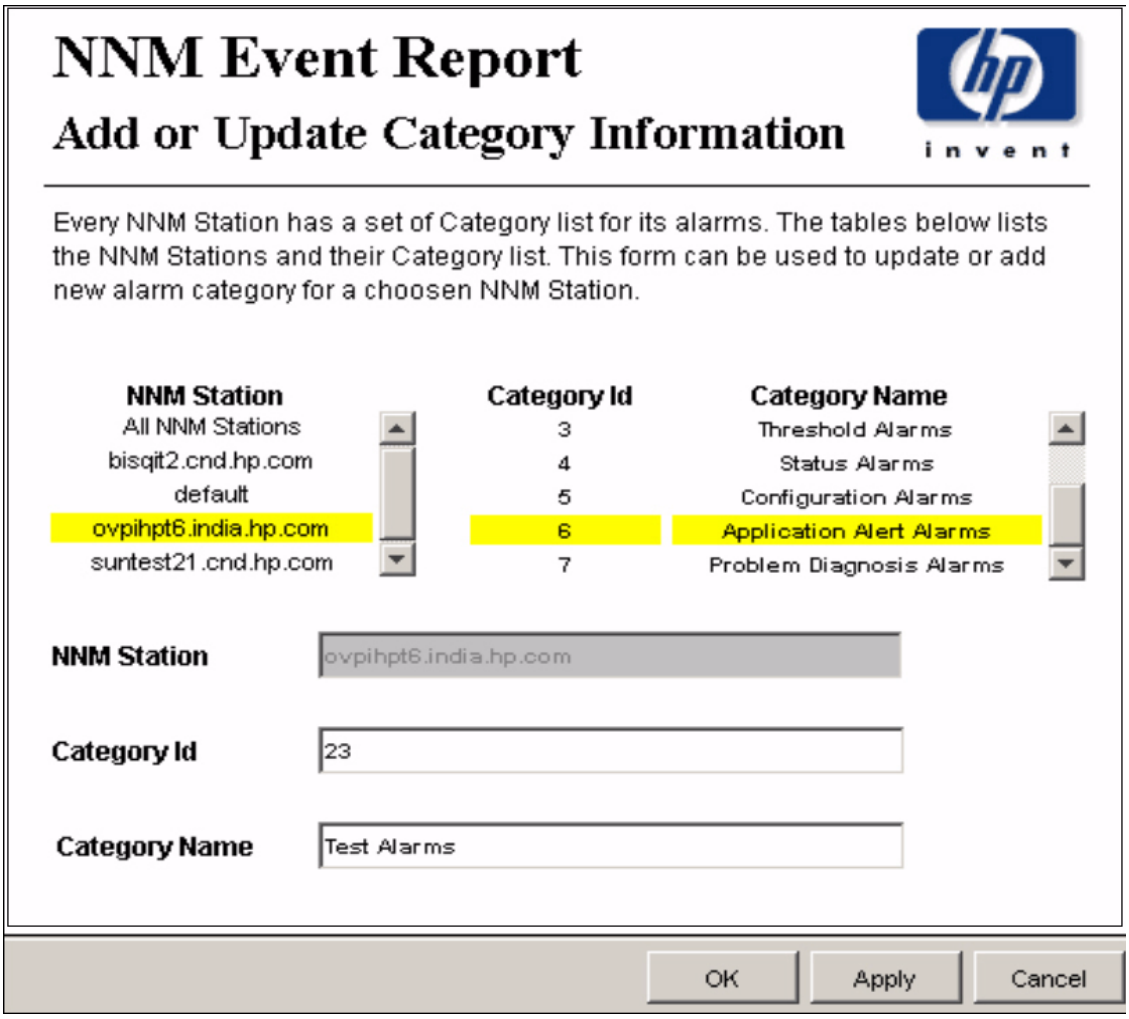
Add or Update Category Information

Follow these steps to update a new alarm category for an NNM station:

1. Launch the Management Console.
2. Click **Objects.** The Add or Update Category Information is listed under **General Tasks.** Double-click the form.
3. Navigate to the NNM station and double-click the form. The form opens, showing category information.
4. Highlight the row that contains the data you want to change.
5. Make the changes. Click **Apply** to save changes, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.

Follow these steps to add a new NNM station:

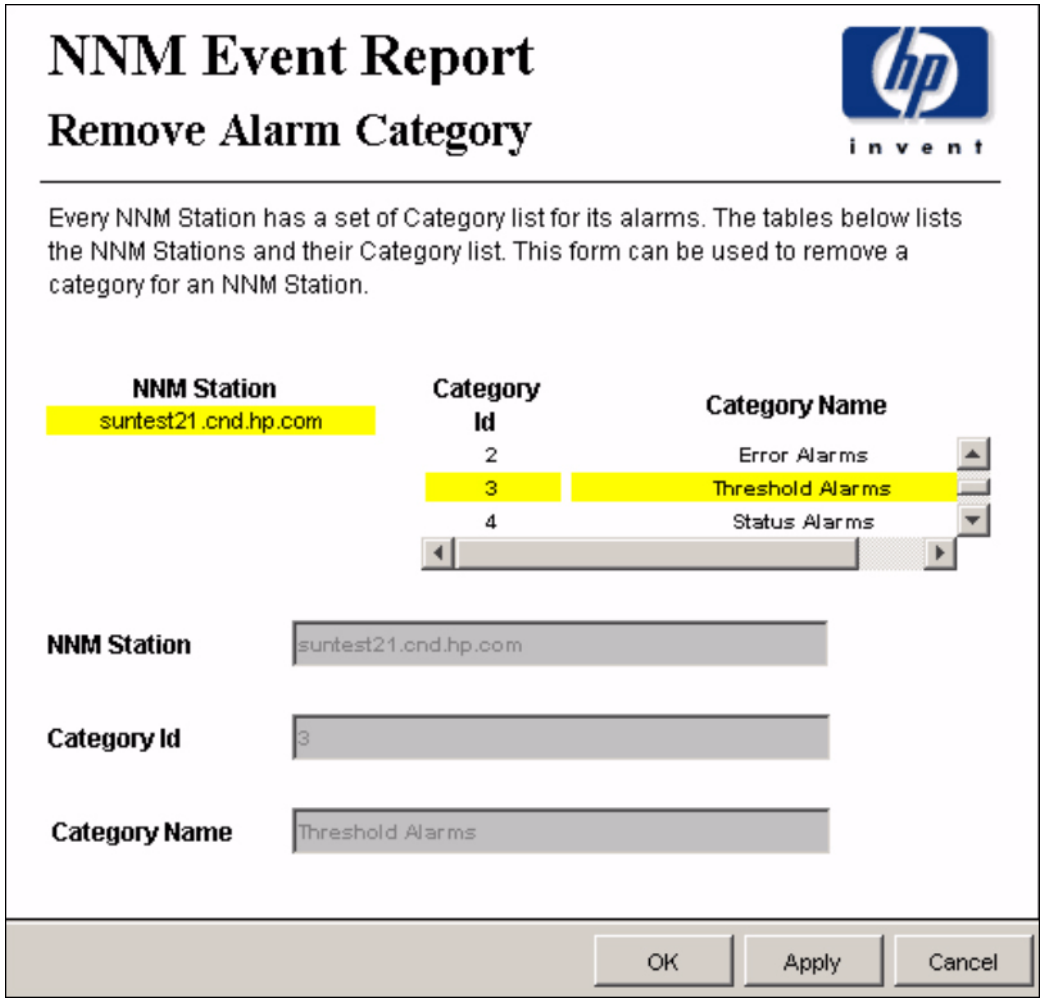
1. Select any row.
2. Enter the new Category Id and Category Name.
3. Click **Apply** to save changes, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.



Remove Alarm Category

Follow these steps to remove a category for an NNM station:

1. Launch the Management Console.
2. Open the Object/Property Management view. Select **View > Change View** and use the pop-up window to select OV NNM view. The NNM stations are listed here.
3. Select the NNM station that you want to remove.
4. Double-click the Remove Alarm Category form under **Object Specific Tasks**. The form opens, showing NNM stations, Category Id, and Category Name.
5. Highlight the row you want to remove.
6. Click **Apply** to remove a category for an NNM station, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.

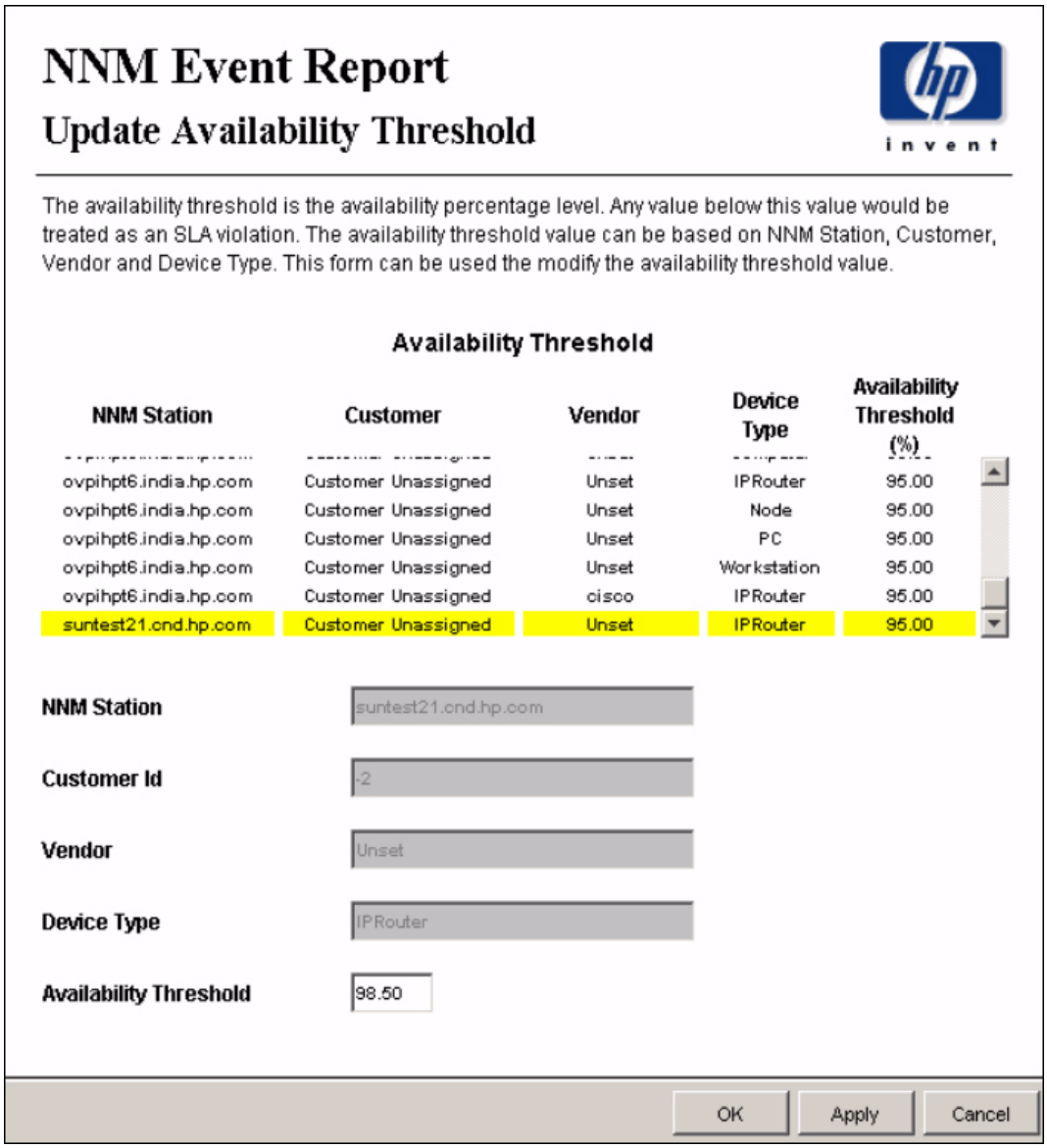


Update Availability Threshold

The Availability Threshold (percentage of availability) values are based on NNM station, Customer, Vendor and Device type. Threshold is the line between normal and abnormal performance. When this line is crossed, an exception is recorded. Thresholds are set to default values that are easily changed to reflect individual needs.

Follow these steps to change the threshold value:

1. Launch the Management Console (piadmin).
2. Click **Objects.**, Under **General Tasks** you will see the Update Availability Threshold form. Double-click the form. The forms opens, showing the Availability Threshold table.
3. Highlight the row that contains the Availability Threshold you want to change.
4. Make the changes. Click **Apply** to save changes, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.



Changing the HTTP Port Number of OVI on NNM

If the port number 8092 is already in use, do the following to change the port number:

1. On NNM, change the **<serverPort>8092</serverPort>** parameter in the file specified below to identify the new HTTP port number.

   UNIX

   `$OV_INSTALL_DIR/conf/OVPI_INTEGRATION/ResponderProxyPluglet.config`

   Windows

   `$OV_INSTALL_DIR/newconfig/OVPI_INTEGRATION/ResponderProxyPluglet.config`

2. Re-start the OVI CommandResponder pluglet. To start or stop OVI, do as follows:

   UNIX

   ```
   $OV_BIN/ICO_ctl.ovpl -s : to stop OVI
   $OV_BIN/ICO_ctl.ovpl -g : to start OVI
   ```

   Windows

   ```
   %OV_BIN%\ICO_ctl.ovpl -s : to stop OVI
   %OV_BIN%\ICO_ctl.ovpl -g : to start OVI
   ```

Synchronizing Node or Category Information

Use the `get_nnm_aggevt` tool to synchronize the node information or category information from all the NNM stations.

- To update NNM Event Report Pack with current node information from NNM, use the following script to get the node information:

  ```
  $DPIPE_HOME/bin/perl $DPIPE_HOME/scripts/get_nnm_aggevt.pl -i
  ```

- The alarm category can increase overtime. (Example: If you install new RNS SPI's) To update NNM Event report pack use the following script to get the node information:

  ```
  $DPIPE_HOME/bin/perl $DPIPE_HOME/scripts/get_nnm_aggevt.pl -c
  ```

Changing OV NNM Events Data Tool

OV NNM provides Events data using the following tools:

- `ovdumpevents`: This is the default data collection tool on OVPI.
- `ovdwquery`: This is based on RDBMS.

For more information on these tools, refer to the *HP OpenView Network Node Manager Managing Your Network with HP OpenView Network Node Manager*.

Follow these steps to change the tool to ovdwquery:

1. Access the `$DPIPE_HOME/lib` directory
2. Create a configuration file named `NNM_Event_Report.conf` with the following entry:

AGG_TOOL,ovdwquery

The tool will now be used in the next poll cycle, to get events data from OV NNM.

Follow these steps to change the tool to ovdumpevents:

1. Access the `$DPIPE_HOME/lib` directory
2. Do one of the following:
   - remove the conf file `NNM_Event_Report.conf`
   - modify the `AGG_TOOL` entry in the above configuration file as **AGG_TOOL,ovdumpevents**

Checking Collection Failures

Check the following log files in sequence:

1. On OVPI, the collection details for all the NNM Stations are logged in `$DPIPE_HOME/log/trend.log`. Check for entries with `get_nnm_aggevt.pl`, the module that collects events data from NNM Stations.
2. On NNM, the collection details and failures, if any, are logged in

   `$OV_TMP/OVPI/NNM_EVT_RP_*log`

4

Distributed Systems

If you intend to run the NNM Event Report Pack as a distributed system across multiple servers, you must configure the central server and each satellite server.

Configuring the Central Server

To configure the central server, perform the following tasks:

- Task 1: Set up connections with satellite server databases
- Task 2: Configure trendcopy pull commands and modify the entry in `trendtimer.sched`.

Task 1: Set up connections with satellite server databases

1. Start the Management Console.
2. Click the **Systems** icon on the lower left. The **System/Network Administration** pane opens.
3. Right-click the **Databases** folder. When prompted, select **Add OVPI Database**. The Add Database Wizard opens.
4. Click **Next**.
5. Type the hostname and port number for the database you want to add; click **Next.**
6. Review the Summary. Repeat Steps 4 and 5 for each additional database.
7. Click **Finish** when you are done.

Task 2: Configure trendcopy pull commands and modify the entry in trendtimer.sched

1. Open the following files:

   `$DPIPE_HOME/scripts/hourly_NNM_Event.pro`

   `$DPIPE_HOME/scripts/hourly_NNM_Avail.pro`
2. Modify the trendcopy commands so that each command includes the correct server name for each satellite server.
3. If necessary, add more commands.

4 *Optional*. If the installation requires rate data to be available on the central server, change *SH_NNM_Event, SH_NNM_Avail* in copy commands to *RNNM_Event*, *RNNM_Avail*.

> If you copy polled rate data from each satellite server every hour, you will increase the amount of traffic between the satellites and the central server and you will increase the processing load on the central server.

5 The NNM_Event.pro calls the hourly process file to collect both Event and Availability summarizations. Edit the file `$DPIPE_HOME/lib/trendtimer.sched`. To ensure that the satellite server completes hourly summarizations before the central server does the same, Change the trendtimer start time from 1:00 to 1:00+20. By default, this process starts at beginning of every hour.

6 Ensure that all system clocks are synchronized. This is critical in a distributed environment in which linked processes run on different machines. If the system clocks are not synchronized, the sequence of executing these processes will be inaccurate.

Configuring a Satellite Server

Follow these steps to configure a satellite server.

1 Switch off the following aggregations by commenting out the entries listed below, from the `$DPIPE_HOME/lib/trendtimer.sched` file:

```
24:00+03:00 - - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/
daily_NNM_Event.pro

24:00+03:00 - - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/
daily_NNM_Avail.pro

SU+24:00 - - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/
weekly_NNM_Event.pro

MONTH1+24:00 - - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/
monthly_NNM_Event.pro

MONTH1+24:00 - - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/
monthly_NNM_Avail.pro

MONTH1+24:00 - - {DPIPE_HOME}/bin/trend_proc -f {DPIPE_HOME}/scripts/
yearly_NNM_Avail.pro
```

2 Modify the `hourly_NNM_Event.pro`, by commenting out all entries except the following summarization:

```
{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/hourly_NNM_Event.sum
```

3 Make sure that each satellite server is collecting data from a disjoint set of NNM Stations.

5

10 Sample Reports

This chapter provides samples of the following reports:

1. Detailed Availability Report
2. Availability Forecast by Customer
3. Availability SLA Report
4. Executive Summary by Vendor
5. Event Summary by NNM Station
6. Forecast by Severity
7. Hot Spots Top 20
8. NNM Events by Category and Device
9. NNM Events by Severity and Device
10. Executive Summary by Severity

Sample 1: Detailed Availability

Daily, monthly, and yearly availability information for a selected customer, and a selected type of device on a per-vendor basis. This report does not show availability across multiple NNM stations. Data is aggregated at the NNM station level.

First select the NNM station, then select a vendor, a customer, and a device type. The table below the selection fields provides statistics for:

- Availability
- MTTR
- Total downtime
- MTBF
- Outage count

Use this report to see if availability for a particular device type managed by a particular NNM station is improving or worsening.

Sample 2: Availability Forecast by Customer

If multiple NNM stations are in use, this report aggregates data from all of them, and rolls up data to the customer level. Once you select a customer, you can either select *All* or a particular device type. The bar graph provides baseline, F30, F60, and F90 values for:

- MTBF
- MTTR
- Availability
- Downtime

Use this report to see whether the customer you selected is expected to see improved availability metrics or degraded availability metrics.

Sample 3: Availability SLA

The availability SLA report aggregates data for multiple NNM stations. It answers four questions:

- On average, is a particular vendor operating above or below the threshold for availability?
- Is a particular device type from one vendor operating above or below the threshold?
- On average, are the devices owned by a customer operating above or below the threshold?
- Is a device type owned by a particular customer operating above or below the threshold?

This report looks at downtime details as well as availability details. You can compare actual availability to the SLA value (the threshold for availability), and you can compare actual downtime to the SLA value (the threshold for downtime).

Sample 4: Executive Summary by Vendor

This report aggregates alarm category and alarm severity data at the vendor level, on a station by station basis. Use this report to determine:

- The distribution of alarms across alarm categories
- Whether the number of alarms per category is increasing or decreasing
- The distribution of severity levels
- Whether the number of alarms per severity level is increasing or decreasing

Sample 5: Event Summary by NNM Station

This report aggregates the total number of events on a station by station basis. Use this report to find out what the total is for each NNM station and whether the total is increasing or decreasing.

Sample 6: Forecast by Severity

This report produces an alarm severity forecast. It aggregates severity data across all devices on a station by station basis, calculates a baseline value for each severity level, then lets you compare the baseline value to F30, F60, and F90 forecasts. Use this report to find out which severity level was most prevalent over the baseline period and how each severity level is expected to behave in the future.

Sample 7: Hot Spots Top 20

This report aggregates events for each device on a station by station basis. Use this report to find out which devices are responsible for the most events. Select a station, then select a severity level. The graph below produces a list of devices, ranked by number of events, highest to lowest, allowing you to see event statistics for the twenty devices responsible for the most number of events.

Sample 8: NNM Events by Category and Device

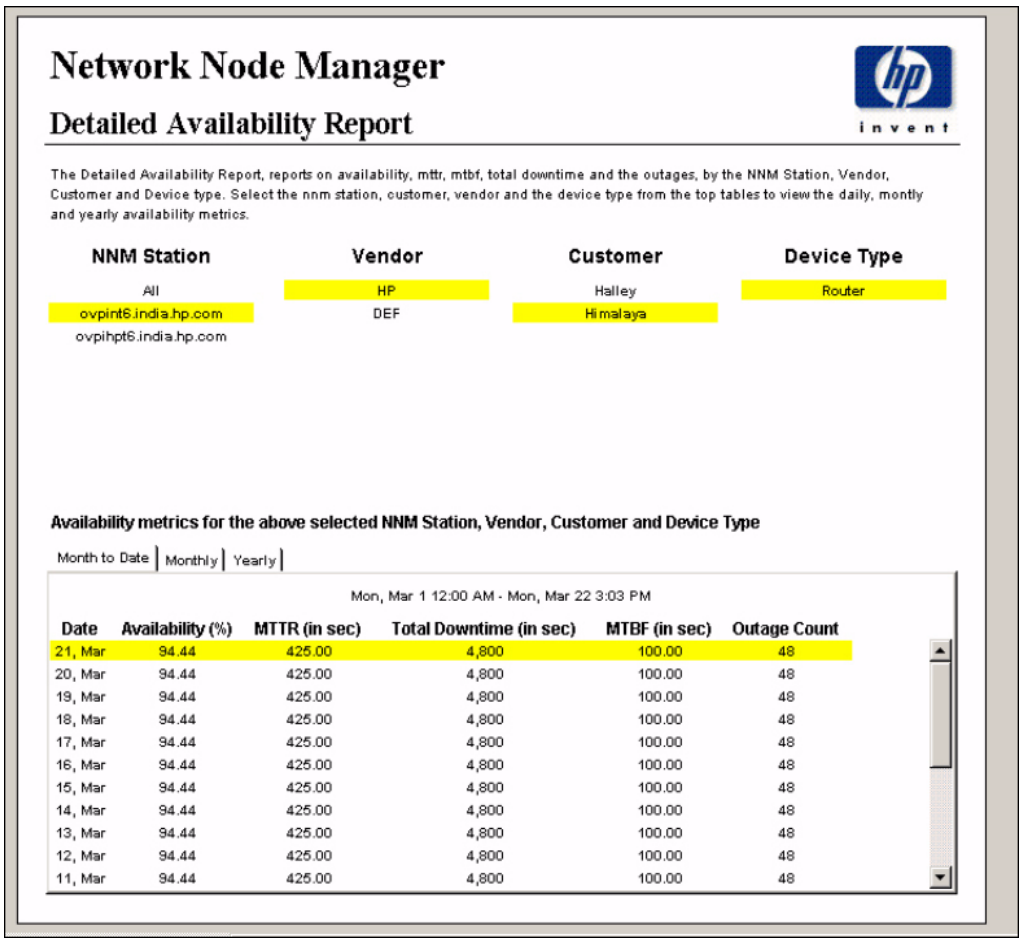
This report aggregates event category statistics on a station by station basis. Use this report to drill down from an event category to a list of the devices responsible for the alarms in that category. The devices are ranked by number of events in that alarm category, highest to lowest. Use this report to find out which devices are responsible for most of the events in each alarm category.

Sample 9: NNM Events by Severity and Device

This report aggregates severity level statistics on a station by station basis. Use this report to drill down from a severity level to a list of the devices responsible for the alarms in that level. The devices are ranked by number of events in that severity level, highest to lowest. Use this report to find out which devices are responsible for most of the events in each severity level.

Sample 10: Executive Summary by Severity

This report compiles data about the number of events per severity level on a vendor-by-vendor basis and on a customer-by-customer basis. After selecting the NNM station, select a vendor and a severity level. The graph to the right shows the trend line for the number of events for this particular device and this particular severity level. You can also select a customer and a severity level. The graph to the right shows the trend line for the number of events for this particular customer and this particular severity level. Use this report to find out whether the event count for a severity level is increasing or decreasing.



Network Node Manager

Detailed Availability Report

The Detailed Availability Report, reports on availability, mttr, mtbf, total downtime and the outages, by the NNM Station, Vendor, Customer and Device type. Select the nnm station, customer, vendor and the device type from the top tables to view the daily, montly and yearly availability metrics.

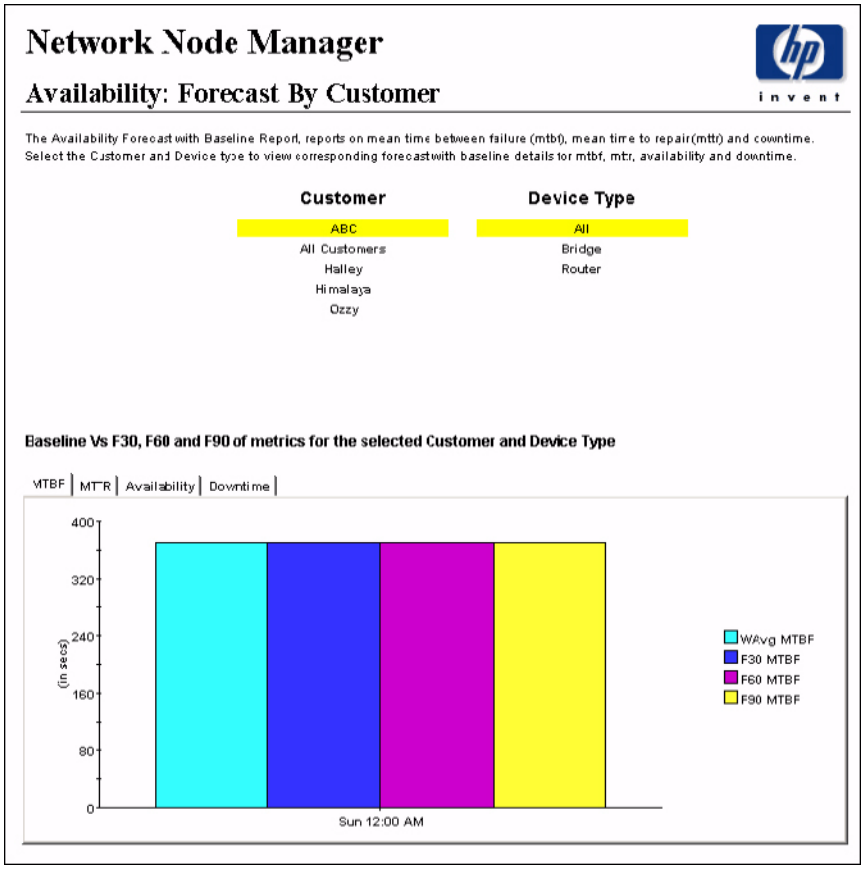
NNM Station	Vendor	Customer	Device Type
All	HP	Halley	Router
ovpint6.india.hp.com	DEF	Himalaya	
ovpihpt6.india.hp.com			

Availability metrics for the above selected NNM Station, Vendor, Customer and Device Type

Month to Date | Monthly | Yearly

Mon, Mar 1 12:00 AM - Mon, Mar 22 3:03 PM

Date	Availability (%)	MTTR (in sec)	Total Downtime (in sec)	MTBF (in sec)	Outage Count
21, Mar	94.44	425.00	4,800	100.00	48
20, Mar	94.44	425.00	4,800	100.00	48
19, Mar	94.44	425.00	4,800	100.00	48
18, Mar	94.44	425.00	4,800	100.00	48
17, Mar	94.44	425.00	4,800	100.00	48
16, Mar	94.44	425.00	4,800	100.00	48
15, Mar	94.44	425.00	4,800	100.00	48
14, Mar	94.44	425.00	4,800	100.00	48
13, Mar	94.44	425.00	4,800	100.00	48
12, Mar	94.44	425.00	4,800	100.00	48
11, Mar	94.44	425.00	4,800	100.00	48


Network Node Manager
Availability: Forecast By Customer
invent
The Availability Forecast with Baseline Report, reports on mean time between failure (mtbf), mean time to repair(mttr) and downtime.
Select the Customer and Device type to view corresponding forecast with baseline details for mtbf, mttr, availability and downtime.
Customer
ABC
All Customers
Halley
Himalaya
Ozzy
Device Type
All
Bridge
Router
Baseline Vs F30, F60 and F90 of metrics for the selected Customer and Device Type
MTBF
MTTR
Availability
Downtime
400
320
240
160
80
0
(in secs)
Sun 12:00 AM
WAvg MTBF
F30 MTBF
F60 MTBF
F90 MTBF

Network Node Manager

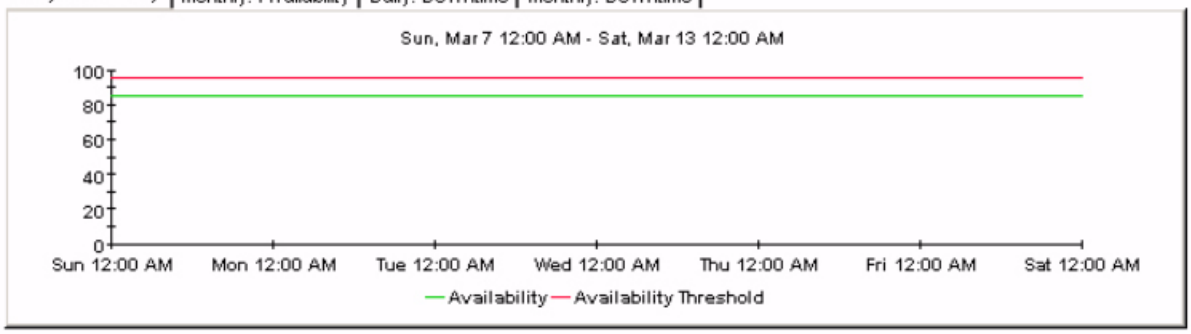
Availability: SLA Report

The Availability: SLA Report, reports on availability with threshold. It also reports the total downtime. Select the customer and device type (or vendor and device type) to view summary of availability with threshold breach and downtime.

Vendor	Device Type
AAA	All
All	Bridge
DEF	Computer
HP	Router
UNKNOWN	

Availability and Downtime details for the selected Vendor and Device Ttype

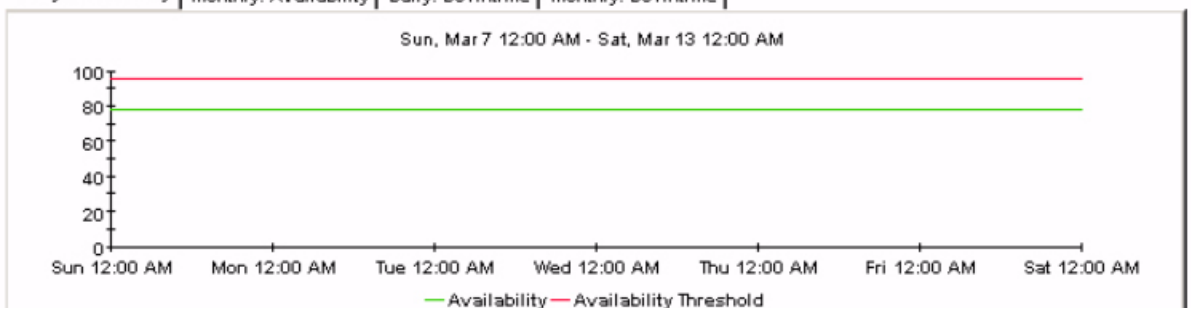
Daily: Availability | Monthly: Availability | Daily: Downtime | Monthly: Downtime



Customer	Device Type
Customer Unassigned	All
All Customers	Bridge
ABC	Router
Ozzy	
Halley	
HaleBob	

Availability and Downtime details for the selected Customer and Device Ttype

Daily: Availability | Monthly: Availability | Daily: Downtime | Monthly: Downtime



Network Node Manager

Executive Summary by Vendor

The Executive Summary by Vendor, reports on the events count based on category and severity for a selected NNM Station and Vendor. Select the nnm station and vendor from the top tables to view the corresponding monthly events count summary. The tabbed region allows further classification for either Category or Severity.

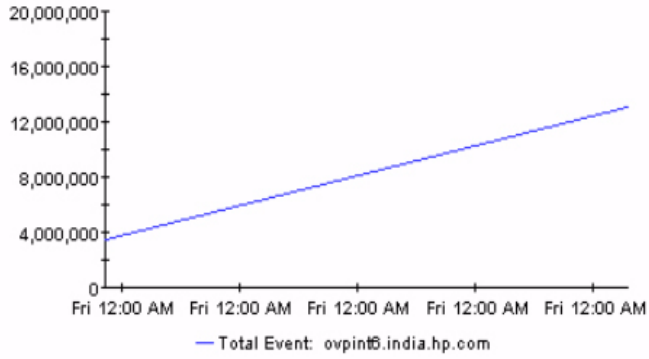
NNM Station	Vendor
ovpint6.india.hp.com	All
ovpihpt6.india.hp.com	Cisco
	HP
	Sun

Category

- All Categories
- Application Alert Alarms
- Configuration Alarms
- Error Alarms
- Status Alarms
- Threshold Alarms

Monthly Summary By Category

Thu, Jan 1 12:00 AM - Sun, Feb 1 12:00 AM

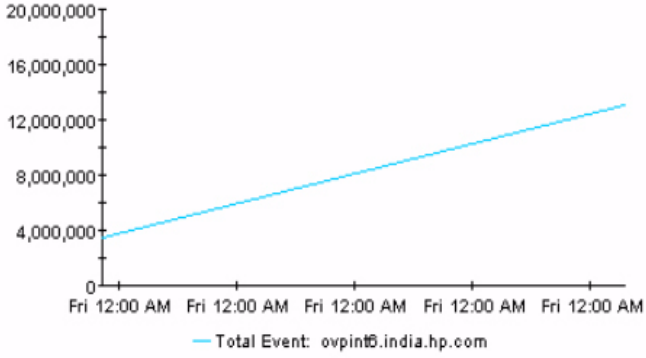


Severity

- All Severities
- Critical
- Major
- Minor
- Normal
- Warning

Monthly Summary By Severity

Thu, Jan 1 12:00 AM - Sun, Feb 1 12:00 AM



Network Node Manager

Event Summary By NNM Station

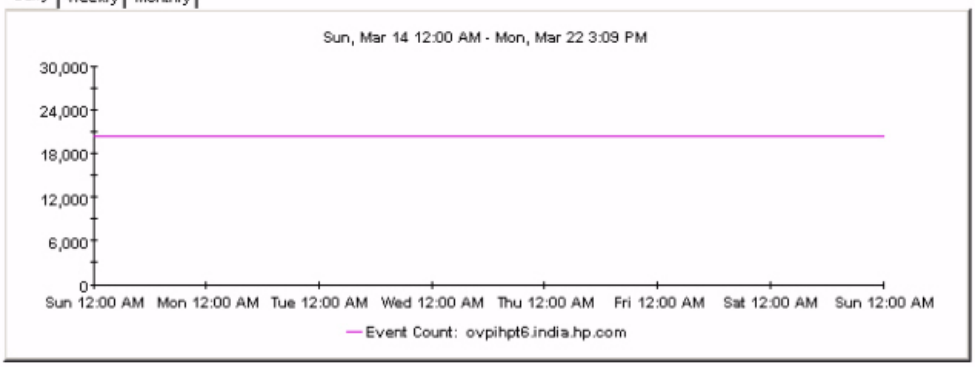
The NNM Event Report by NNM Station, gives event count based on NNM Stations. Select the NNM Station from the table below to view its event count summary.

NNM Station

All
ovpihpt6.india.hp.com
ovpint6.india.hp.com

Event Count for Selected NNM Station

Daily | Weekly | Monthly



Network Node Manager

Forecast By Severity

The NNM Event Forcast by Severity Report, forecasts total events for 30, 60 and 90 days. Select the NNM Station and the Severity from the top tables to view the correspodning expected total events from the graph below, along with the baseline data. The baseline event count is weighted average.

NNM Station

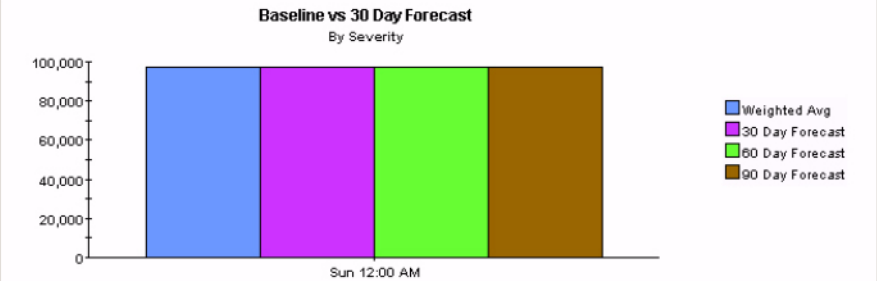
ovpihpt6.india.hp.com
ovpint6.india.hp.com

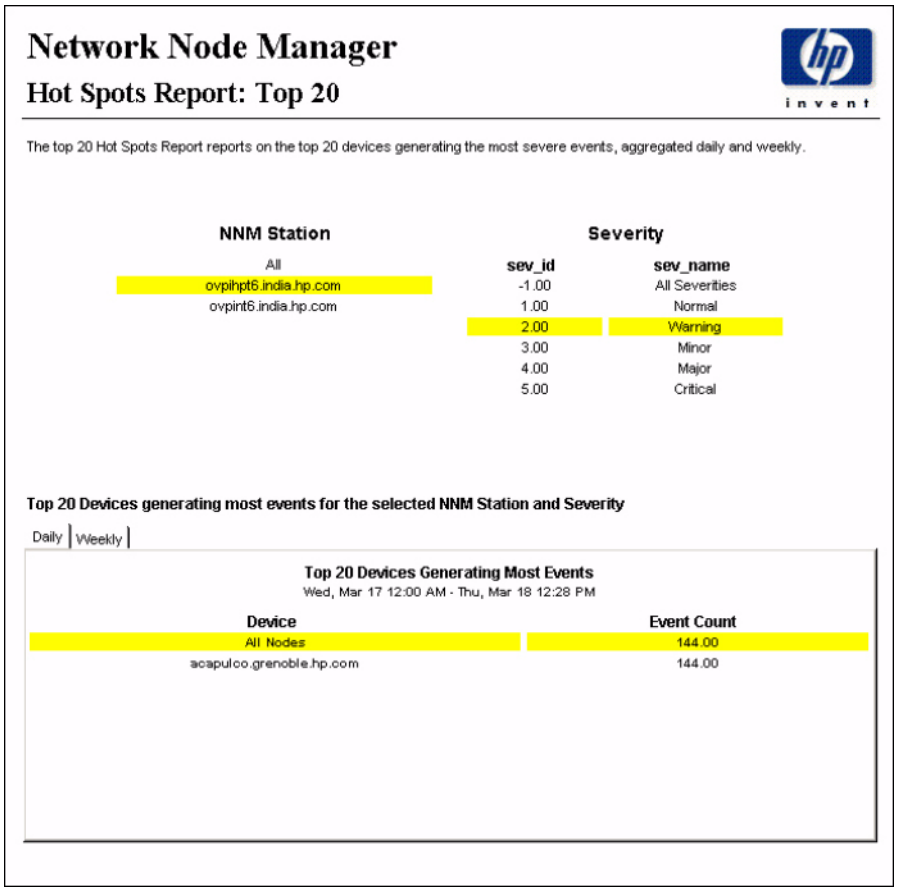
Severity

Severity ID	Severity
-1	All Severities
1	Normal
2	Warning
3	Minor
4	Major
5	Critical

30, 60 and 90 Days Events Count Forecast for the selected NNM Station and Severity

BL Vs F30/F60/F90





Network Node Manager

Hot Spots Report: Top 20

The top 20 Hot Spots Report reports on the top 20 devices generating the most severe events, aggregated daily and weekly.

NNM Station

All
ovpihpt6.india.hp.com
ovpint6.india.hp.com

Severity

sev_id	sev_name
-1.00	All Severities
1.00	Normal
2.00	Warning
3.00	Minor
4.00	Major
5.00	Critical

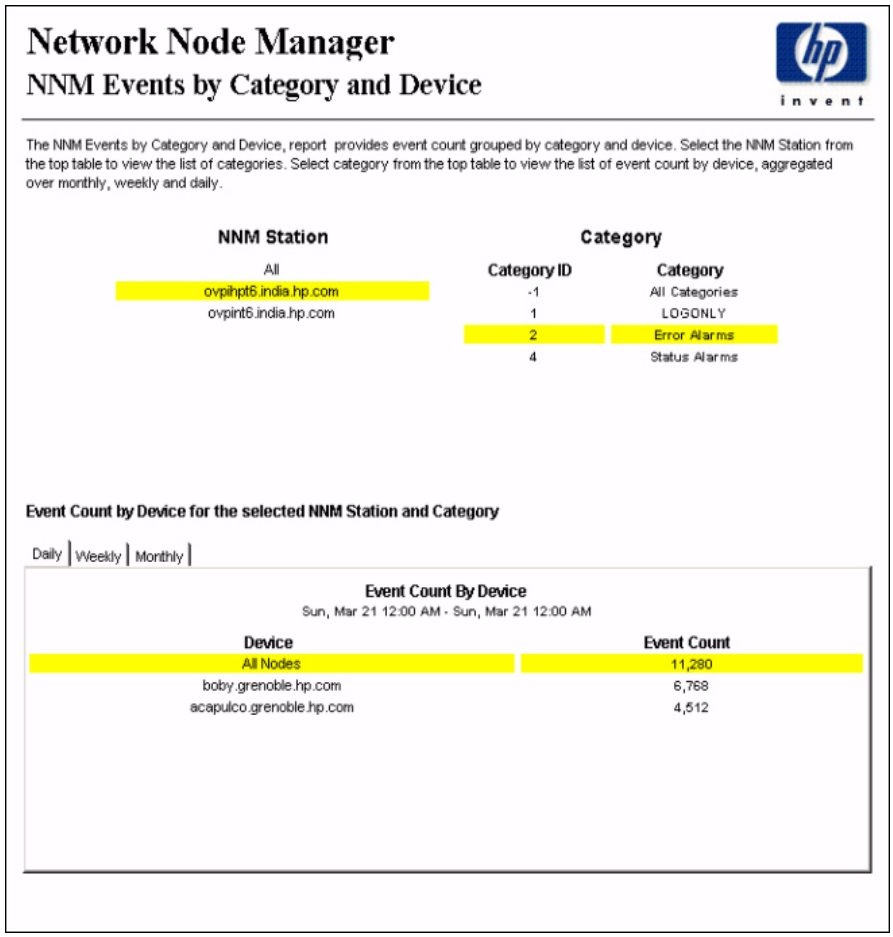
Top 20 Devices generating most events for the selected NNM Station and Severity

Daily | Weekly |

Top 20 Devices Generating Most Events

Wed, Mar 17 12:00 AM - Thu, Mar 18 12:28 PM

Device	Event Count
All Nodes	144.00
acapulco.grenoble.hp.com	144.00



Network Node Manager

NNM Events by Category and Device

The NNM Events by Category and Device, report provides event count grouped by category and device. Select the NNM Station from the top table to view the list of categories. Select category from the top table to view the list of event count by device, aggregated over monthly, weekly and daily.

NNM Station

All
ovpihpt6.india.hp.com
ovpint6.india.hp.com

Category

Category ID	Category
-1	All Categories
1	LOGONLY
2	Error Alarms
4	Status Alarms

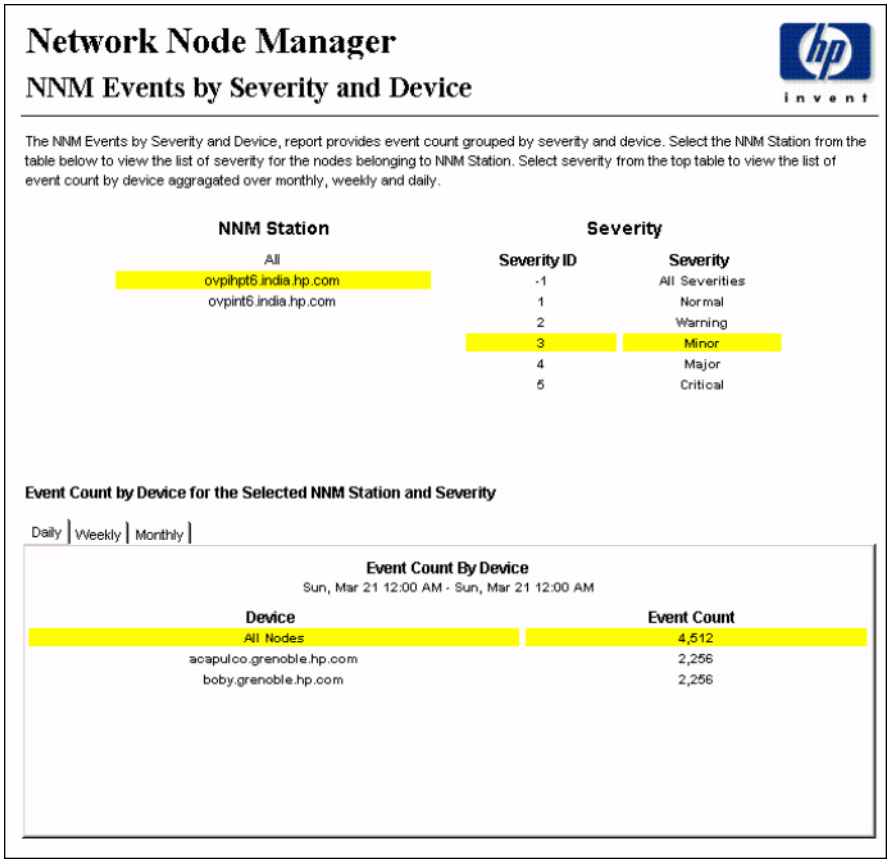
Event Count by Device for the selected NNM Station and Category

Daily | Weekly | Monthly

Event Count By Device

Sun, Mar 21 12:00 AM - Sun, Mar 21 12:00 AM

Device	Event Count
All Nodes	11,280
boby.grenoble.hp.com	6,768
acapulco.grenoble.hp.com	4,512



Network Node Manager

NNM Events by Severity and Device

The NNM Events by Severity and Device, report provides event count grouped by severity and device. Select the NNM Station from the table below to view the list of severity for the nodes belonging to NNM Station. Select severity from the top table to view the list of event count by device aggragated over monthly, weekly and daily.

NNM Station

All
ovpihpt6.india.hp.com
ovpint6.india.hp.com

Severity

Severity ID	Severity
-1	All Severities
1	Normal
2	Warning
3	Minor
4	Major
5	Critical

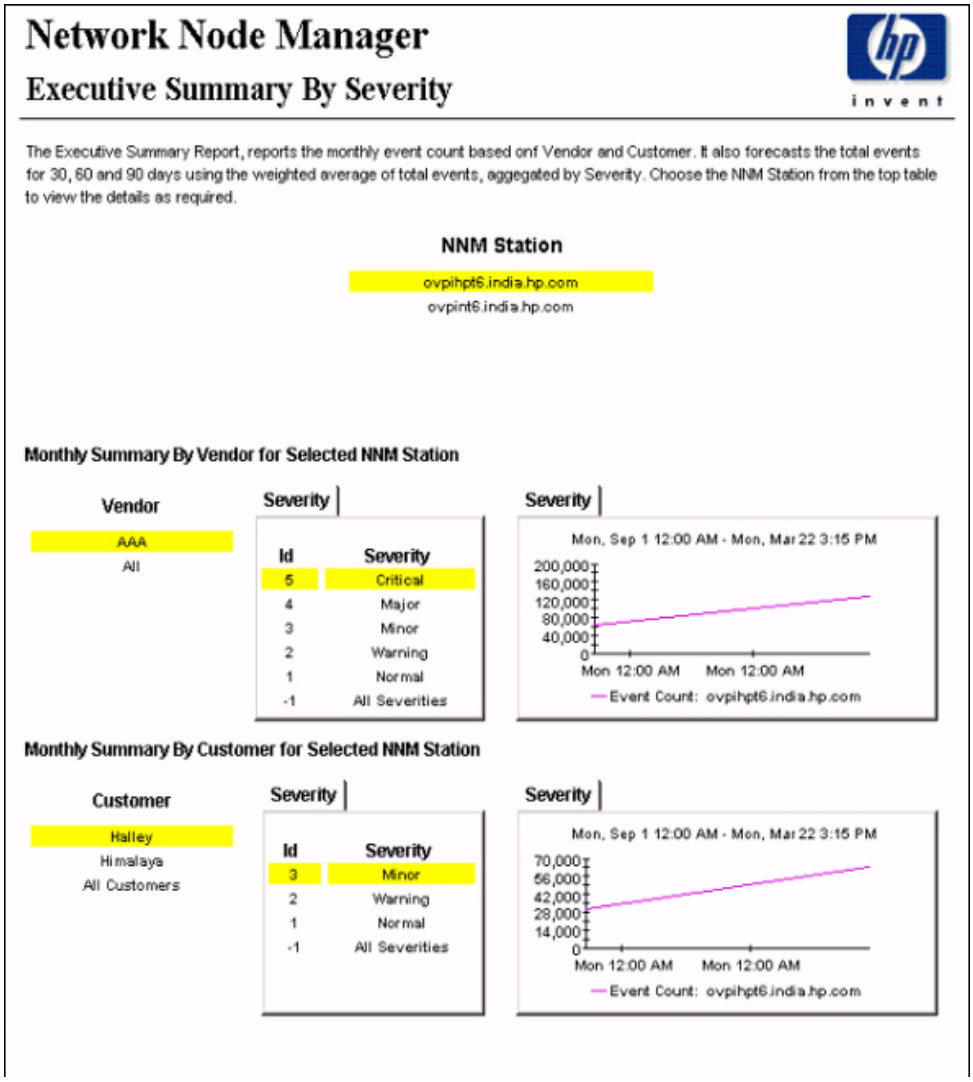
Event Count by Device for the Selected NNM Station and Severity

Daily | Weekly | Monthly

Event Count By Device

Sun, Mar 21 12:00 AM - Sun, Mar 21 12:00 AM

Device	Event Count
All Nodes	4,512
acapulco.grenoble.hp.com	2,256
boby.grenoble.hp.com	2,256



Network Node Manager

Executive Summary By Severity

The Executive Summary Report, reports the monthly event count based onf Vendor and Customer. It also forecasts the total events for 30, 60 and 90 days using the weighted average of total events, aggegated by Severity. Choose the NNM Station from the top table to view the details as required.

NNM Station

ovpihpt6.india.hp.com
ovpint6.india.hp.com

Monthly Summary By Vendor for Selected NNM Station

Vendor

AAA
All

Severity

Id	Severity
5	Critical
4	Major
3	Minor
2	Warning
1	Normal
-1	All Severities

Severity

Mon, Sep 1 12:00 AM - Mon, Mar 22 3:15 PM

200,000
160,000
120,000
80,000
40,000
0

Mon 12:00 AM Mon 12:00 AM

Event Count: ovpihpt6.india.hp.com

Monthly Summary By Customer for Selected NNM Station

Customer

Halley
Himalaya
All Customers

Severity

Id	Severity
3	Minor
2	Warning
1	Normal
-1	All Severities

Severity

Mon, Sep 1 12:00 AM - Mon, Mar 22 3:15 PM

70,000
56,000
42,000
28,000
14,000
0

Mon 12:00 AM Mon 12:00 AM

Event Count: ovpihpt6.india.hp.com

index