NNM Event and Availability Report Pack

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

Software Version: 1.40

NNM 7.5x and HP Performance Insight 5.41

User Guide

November 2009

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1 Overview

This chapter covers the following topics:

- Performance Insight and NNM Events
- Recent Enhancements
- Folders and Reports
- Options for Customizing Reports
- Sources for Additional Information

Performance Insight and NNM Events

Performance Insight collects data from many sources, performs in-depth trend analysis, maintains performance baselines, and provides users with convenient, web-based reporting. Following is a partial list of product features:

- Distributed architecture
- Easy to scale (supports data collection from thousands of agents)
- CODA/PA agent support
- Multi-company security model
- Data warehousing
- Near Real Time reporting
- Forecasting
- Multiple aggregations (by day, week, month; by location, by customer)
- Thresholding and alerting
- Bottlenecks easy to spot; capacity trends easy to assess
- Accurate and timely documentation for management

Network Node Manager 7.5x defines an event using the following attributes:

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

The NNM Event and Availability Report Pack uses a built-in datapipe to collect event and downtime data from NNM. The report pack processes collected data (summarizations and aggregations) and displays the results in report templates. Use the reports to:

- See whether availability for a particular device is improving or worsening
- See whether availability for a particular customer is improving or worsening
- Look at the distribution of alarms across alarm categories
- See the trend line for each alarm category
- Look at the distribution of severity levels
- See the trend line for each severity level
- Find out which devices are responsible for the majority of alarms in each alarm category

Recent Enhancements

The enhancements in version 1.40 are listed in the following table.

New in Version 1.40	
Upgrade packages	• NNM_Event_Upgrade_10_to_14 (RNS11-->RNS14.10 only) • NNM_Event_Upgrade_12_to_14 (RNS13 --> RNS14.10 only)

Folders and Reports

When you install NNM Event and Availability, PI creates the NNM_Report directory. This directory has two child directories:

- Availability
- Event

The **Availability** directory contains six reports:

- Detailed Availability
- Availability Forecast by Customer
- Availability Forecast by Vendor
- Availability SLA
- Detailed Availability on Station Level
- Detailed Availability on Node Level

The **Event** directory contains multiple subdirectories:

- General
- Category
- Severity
- Consolidated

General (7)

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 (4)

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 (4)

The Severity directory contains:

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

Consolidated (5)

The Consolidated directory contains:

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

Options for Customizing Reports

You can customize reports by importing customer names, by applying group filters, by editing parameters (applying constraints), and by editing tables and graphs. While group filters appeal to service providers, or any organization that wants to share reports with customers, editing a table, graph, or parameter is something any user can do.

Group Filters

If you want to share reports with your customers, you have to configure PI to produce customer-specific reports. Here is an overview of the steps involved:

- Use Common Property Tables to import customer names and device locations
- Create a group account for all the users affiliated with each customer
- Create a group filter for each group account

For more information about group filters, refer to the *HP PI Administration Guide*.

Editing Parameters

Editing a parameter applies a constraint to the reports. The constraint eliminates data you are not interested in seeing. The NNM Event and Availability 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 using the Web Access Server, 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

The demo package for the NNM Event and Availability 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 this package, and any known issues affecting this package, refer to the *NNM Event and Availability Report Pack 1.40 Release Notes*. You may also be interested in the following documents:

- *Common Property Tables User Guide*
- *Reporting and Data Analysis with Network Node Manager*
- *Managing Your Network with HP Software Network Node Manager*
- *NNM / Performance Insight Integration Guide*
- *PI Report Packs, CD-ROM Release Notes, September 2009*

You can download the documents listed above from this site:

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

The user guides for PI are listed under **Performance Insight**. The user guides for report packs and datapipes are listed under **Performance Insight Report Packs**. Each user guide indicates a date and if the manual is revised and reposted, the date will change. We post revised manuals on a regular basis, so be sure to download the web edition if the web edition is more current that your PDF.

2 Upgrade Install

This chapter covers the following topics:

- Guidelines for a Smooth Upgrade
- Upgrading to Version 1.40
- Package Removal

If you are installing the NNM Event and Availability Report Pack for the first time, this chapter does not apply to you. See Chapter 3, The New Install.

Guidelines for a Smooth Upgrade

When you insert the report pack CD in the CD-ROM drive and launch the package extraction program, the install script extracts every package from the CD and copies the results to the Packages directory on your system. When the extract finishes, the install script prompts you to launch Performance Insight and start Package Manager. Before running Package Manager, review the following guidelines:

- Prerequisites for the NNM Event and Availability Report Pack
- Upgrading Common Property Tables
- Upgrading NNM Event and Availability in a Distributed Environment

Prerequisites for the NNM Event and Availability Report Pack

Make sure the following software is installed before upgrading:

- Performance Insight 5.41
- All service packs available for PI 5.41
- Common Property Tables 3.91

Upgrading Common Property Tables

If you are running an older version of Common Property Tables, you must upgrade that package to version 3.91 by installing the upgrade package CommonPropertyTables_Upgrade_to_391. If you are not running any version of Common Property Tables, Package Manager will install the latest version of Common Property Tables for you, automatically.

Do not install an 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. For more information about installing and using Common Property Tables, refer to the *Common Property Tables User Guide*.

Upgrading NNM Event and Availability in a Distributed Environment

Following is an overview of the upgrade procedure in a distributed environment:

1. Disable trendcopy on the central server.
2. For the central server:
   - Upgrade to Common Property Tables 3.91; deploy reports
   - Upgrade to NNM Event and Availability 1.40; deploy reports
3. For each satellite server:
   - Upgrade to Common Property Tables 3.91
   - Upgrade to NNM Event and Availability 1.40
4. Re-enable trendcopy on the central server.
5. Reconfigure central and satellite servers. For details, see Chapter 4, Setting Up a Distributed System.

Upgrading to Version 1.40

Perform the following tasks to upgrade to version 1.40:

Task 1: Stop OVPI Timer and extract packages from the report pack CD

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

   On Windows, do the following:

   a. Select **Control Panel > Administrative Tools > Services**.

   b. Select OVPI Timer from the list of services.

   c. From the Action menu, select **Stop**.

   On UNIX, as root, do one of the following:

   HP-UX: **`sh /sbin/init.d/ovpi_timer stop`**

   Sun: **`sh /etc/init.d/ovpi_timer stop`**
3. Insert the report pack CD in the CD-ROM drive. On Windows, a Main Menu opens automatically; on UNIX, mount the CD if the CD does not mount automatically, navigate to the top level directory on the CD, and run the **`./setup`** command.
4. Type **1** in the choice field and press **Enter**. The install script displays a percentage complete bar. When the copy 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 folders under the NNM_Event folder:

- NNM_Event.ap
- NNM_Event_Demo.ap
- NNM_Event_Upgrade_10_to_14.ap (While upgrading from RNS11 to RNS14.10)

- NNM_Event_Upgrade_12_to_14.ap (While upgrading from RNS13 to RNS14.10)

Task 2: Upgrade to Common Property Tables 3.91

Follow these rules:

- Do not install any other package with the CPT upgrade package CommonPropertyTables_Upgrade_to_391. Install the CPT upgrade package and *only* the CPT upgrade package.
- When prompted to accept or disable the option to Deploy Reports, accept the default. If you do not deploy reports, you will not deploy the change forms that come with Common Property Tables.
- When the install finishes, click **Done** to return to the Management Console.

If you need more help with this task, refer to the *Common Property Tables User Guide*.

Task 3: Install the Upgrade Packages

1. From the Management Console, select **Tools > Package Manager**. The Package Manager welcome window opens.
2. Click **Next**. The Package Location window opens.
3. Click **Install**.
4. Click **Next**. The Report Deployment window opens. Accept the defaults for Deploy Reports, Application Server, and Port. Type your user name and password for the PI Application Server.
5. Click **Next**. The Package Selection window opens.
6. Click the check box next to the following packages based on the current version of NNM Event and Availability report pack you are running:

   NNM_Event_Upgrade_10_to_14 (While upgrading from RNS11 to RNS14.10)

   NNM_Event_Upgrade_12_to_14 (While upgrading from RNS13 to RNS14.10)

   NNM_Event_Demo 1.4 (optional)
7. Click **Next.** The Type Discovery window opens. Disable the default.
8. Click **Next.** The Selection Summary window opens
9. Click **Install.** The Installation Progress window opens and the install begins. When the install finishes, a package install complete message appears.
10. Click **Done**.

> Do not be surprised if the UPGRADE package you just installed disappears from view. Package Manager will display what you just installed as *NNM Event and Availability Report Pack 1.40*. This is not an error.

Task 4: Restart OVPI Timer

On Windows, do the following:

a. Select **Control Panel > Administrative Tools > Services**.

b. Select OVPI Timer from the list of services.

c. From the Action menu, select **Start**.

On UNIX, as root, do one of the following:

HP-UX: **`sh /sbin/init.d/ovpi_timer start`**

Sun: **`sh /etc/init.d/ovpi_timer start`**

Package Removal

Follow these steps to uninstall NNM Event and Availability:

1. Log in to the system. On UNIX systems, log in as *trendadm*.
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/init.d/ovpi_timer stop`**

   Sun: **`sh /etc/init.d/ovpi_timer stop`**
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 and Availability 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 PI Application Server.
9. Click **Next.** The Package Selection window opens.
10. Click the check box next to the following packages:

    NNM_Event 1.4

    NNM_Event_Demo 1.4
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.

    Windows: do the following:

    a. Select **Control Panel > Administrative Tools > Services**.

    b. Select OVPI Timer from the list of services.

    c. From the Action menu, select **Start**.

    UNIX: as root, do one of the following:

    HP-UX: **`sh /sbin/init.d/ovpi_timer start`**

    Sun: **`sh /etc/init.d/ovpi_timer start`**

3 The New Install

This chapter covers the following topics:

- Prerequisites
- Installing NNM Event and Availability
- Accessing Deployed Reports
- Package Removal

Prerequisites

You cannot use the NNM Event and Availability Report Pack unless your NNM server and your PI server are integrated. If your servers are not yet integrated, you need to do this now. Refer to the *NNM/PI Integration Guide* for more information about enabling integration on the NNM server and running the Integration Wizard on the PI server.

The following software that must be running on your PI server before installing the NNM Event and Availability Report Pack:

- Performance Insight 5.41
- Any and all Service Packs available for PI 5.41
- Common Property Tables 3.91

Installing NNM Event and Availability

Perform the following tasks to install the report pack:

- Task 1: Stop OVPI Timer and extract report packs from the report pack CD
- Task 2: If necessary, upgrade Common Property Tables
- Task 3: Install the NNM Event and Availability Report Pack

Task 1: Stop OVPI Timer and extract packages from the report pack 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/init.d/ovpi_timer stop`**

   Sun: **`sh /etc/init.d/ovpi_timer stop`**

3 Insert the report pack CD in the CD-ROM drive. 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 PI 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 parent directory for the report pack:

- NNM_Event.ap
- NNM_Event_Demo.ap (optional)

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

Task 2: Upgrade Common Property Tables

If you are running an older version of Common Property Tables, upgrade to Common Property Tables 3.91 by installing the upgrade package CommonPropertyTables_Upgrade_to_391. If you are not running any version of Common Property Tables, skip this task.

Installing the Common Property Tables upgrade package is no different from installing other upgrade packages; however, do not install this upgrade package and other packages at the same time. Install the Common Property Tables upgrade package and *only* the Common Property Tables upgrade package. When the installation is complete, click **Done** to return to the Management Console.

Task 3: Installing NNM Event and Availability Report Pack

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 PI Application Server.

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

7 Select the check box next to the following packages:

Common Property Tables 3.91 (if not already installed)

NNM Event 1.4

NNM Event Demo 1.4

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**.

12 Restart OVPI Timer.

Windows: do the following:

a Select **Control Panel > Administrative Tools > Services**.

b Select OVPI Timer from the list of services.

c From the Action menu, select **Start**.

UNIX: as root, do one of the following:

HP-UX: **`sh /sbin/init.d/ovpi_timer start`**

Sun: **`sh /etc/init.d/ovpi_timer start`**

Accessing Deployed Reports

When you installed the report pack, you enabled the Deploy Reports option. As a result, the reports in this package (as well as any forms that come with it) were deployed to the PI Application Server. Once reports reside on the PI Application Server, you have two ways to view them:

- PI client applications
- Web browser

If the client applications are installed on your system, you have access to Report Viewer, Report Builder, and the Management Console. If you don't have the clients, use a web browser to reach the Web Access Server.

For more information about the clients, refer to the *PI Installation Guide*. For details about the Management Console, including how to use the Object/Property Management view to launch reports specific to a selected object, refer to the *PI Administration Guide*.

Package Removal

Follow these steps to uninstall NNM Event and Availability:

1 Log in to the system. On UNIX systems, log in as *trendadm*.

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/init.d/ovpi_timer stop`**

Sun: **`sh /etc/init.d/ovpi_timer stop`**

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 and Availability 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 PI Application Server.

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

10 Click the check box next to the following packages:

NNM_Event 1.4

NNM_Event_Demo 1.4

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.

Windows: do the following:

a Select **Control Panel > Administrative Tools > Services**.

b Select OVPI Timer from the list of services.

c From the Action menu, select **Start**.

UNIX: as root, do one of the following:

HP-UX: **`sh /sbin/init.d/ovpi_timer start`**

Sun: **`sh /etc/init.d/ovpi_timer start`**

4 Setting Up a Distributed System

These are the steps to follow when setting up a distributed system:

- Decide whether or not you want local reporting
- Install the right set of packages (NNM Report Pack packages) on each server
- Verify that the system clocks in your environment are synchronized
- Register your satellite servers
- If you are not copying rate data to the central server, enable LIR on the central server
- If you enable LIR, add LIR mapping with the time type set to rate
- Verify that you have all the copy policies you need
- Configure the central server (manual edits to trendtimer.sched and .pro files)
- Configure each satellite server (manual edits to trendtimer.sched and .pro files)

If you want to set up a distributed system, you can implement local reporting or you can implement centralized reporting. If you want local reporting, you need to deploy reports when you install the report pack on each satellite server, and you need to allow summarizations to run on each satellite server. If you do not want local reporting, then you do not need to deploy reports when you install a report pack on a satellite server and you can disable the scripts that run summarizations on each satellite server.

Before Location Independent Reporting (LIR) was available, our recommendation to anyone setting up a distributed system was to deploy reports on satellite servers, keep rate data on satellite servers, copy hourly data to the central server, and disable summarizations above the hourly level on satellite servers. The advantage to this approach was that it kept a large volume of rate data off the network and it decreased the processing load on the central server. The disadvantage is that the central server could not display a Near Real Time (NRT) report. The only NRT report was a local NRT report, on a satellite server. LIR overcomes this disadvantage. If you enable LIR, you can open an NRT report on the central server and drill-down on table selections. The selections you make cause the central server to query a satellite server for locally aggregated data. Of course, if you would rather copy rate data to the central server, you can. If you do that, then enabling LIR is not necessary.

NNM Event and several other report packs in the current version have a new copy policy import file. When you install NNM Event, PI uses this file to generate copy policies. As a result, you do not need to use the Management Console to create copy policies yourself. Instead, your only task is to verify that the copy policies you need already exist.

Because you are likely to have multiple satellite servers, we designed the hourly process files to be satellite-server friendly. This means that most of the time, most of the defaults are correct. But some defaults will be incorrect, or less than optimal, and so to improve performance you should change them. These manual edits, as well as the other steps listed above, are spelled out in detail below.

Configuring the Central Server

To configure the central server, perform the following tasks:

- Task 1: Register the satellite server by setting the database role
- Task 2: If you are not copying rate data to the central server, enable LIR
- Task 3: If you enable LIR, add LIR mappings
- Task 4: Verify the automatically generated copy policies
- Task 5: Modify the `hourly_NNM_Event.pro` file
- Task 6: Modify the `hourly_NNM_Avail.pro` file

Task 1: Register the satellite server by setting the database role

1. Start the Management Console (log on with Administrator privileges).
2. Click the **Systems** icon in the navigation pane.
3. Navigate to the PI Databases folder and select the database system.
4. Click **Database Properties**.
5. From the Database Role list, select the Satellite Server role.
6. Enter any information necessary to configure the Satellite Server role.

To add a new database reference, you can use the Add Database Reference Wizard in the System and Network Administration application.

Task 2: Enable LIR

1. Start the Management Console (log on with Administrator privileges).
2. Click the **Systems** icon in the navigation pane.
3. Navigate to the PI Databases folder and select the central server.
4. Click **LIR Configuration**.
5. Select the **LIR enabled** check box.

Task 3: Add LIR mappings

1. Start the Management Console (log on with Administrator privileges).
2. Click the **Systems** icon in the navigation pane.
3. Navigate to the PI Databases folder and select the central server.
4. Click **LIR Configuration**.
5. Click **Add Mapping**.
6. From the Select Satellite Server list, select a satellite server to which to add a mapping.
7. Select the **Category** data table option.
8. Select **NNM_Event** from the drop down list.
9. Select the **`rate`** data type.
10. Click **Add to List**.

11 If you want to add additional LIR mappings, click **Add to list** and repeat step 6 through step 10.

12 Click **OK**.

13 Click **Apply**.

A copy policy is automatically generated for the hourly data and for each LIR mapping that you add. The data type selected when adding an LIR mapping (in step 9 above) determines the type of data copied (defined in the generated copy policy). The type of data copied (defined in the generated copy policy) is one summarization level greater than the data type selected in the LIR mapping. For example, if you select an hourly data type, you will generate a daily data copy policy.

Task 4: Verify the automatically generated copy policies

Verify that a copy policy has been generated for the following tables and that the copy type is set correctly (to Property and Data):

1 Start the Management Console (log on with Administrator privileges).

2 Click the **Copy Policy** icon in the navigation pane to start the Copy Policy Manager.

3 Find the following tables and verify the copy type is set to Property and Data for each table:

- SH_NNM_Event
- SH_NNM_Avail
- RVNNM_Avail

A copy policy is required for RVVNNM_Avail only if the cust_id, make, and node_type variables are unique on each satellite server; if these variables are not unique and a copy policy exists for this table, delete the copy policy.

If a copy policy has not been generated for a table, do the following:

1 Click the **New Copy Policy** icon or select **File > New Copy Policy** from the Copy Policy Manager. The Copy Policy Wizard displays.

2 Click **Next**. The Satellite Server and Copy Policy Selection Page displays.

3 Select a satellite server from the pull down list. This is the satellite server from which data is copied to the central server.

4 Select **Single Table** and select the table from the pull down list.

5 Click **Next**. The Copy Type Selection Page displays.

6 Select **Property and Data**.

7 Click **Next**. The Summary page displays.

8 Verify the information in the summary window. If the information is not correct, you can modify it by clicking Back.

9 Click **Finish**.

10 Repeat step 4 - step 9 for all missing tables.

If the copy type is not set to Property and Data, do the following:

1 Double-click the copy policy.

2 Select the **Property and Data** copy type.

3 Click **OK**.

Task 5: Modify the hourly_NNM_Event.pro file

1 Navigate to:

{DPIPE_HOME}/scripts/

where *{DPIPE_HOME}* is the directory in which PI is installed.

2 Open the file.

3 Comment out block0 if this server is a non-collecting central server

Task 6: Modify the hourly_NNM_Avail.pro file

1 Navigate to:

{DPIPE_HOME}/scripts/

where *{DPIPE_HOME}* is the directory in which PI is installed.

2 Open the file.

3 Comment out the following line in block1:

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

4 If you did NOT configure a copy policy for the RVNNM_Avail table (refer to task 5), comment out the following line in block1:

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

Configuring a Satellite Server

Follow these steps to configure each satellite server.

1 Modify the *{DPIPE_HOME}*/scripts/hourly_NNM_Event.pro file (where *{DPIPE_HOME}* is the directory in which PI is installed).

Make the following changes:

- Comment out block1_init.
- Uncomment block2, including the begin and end lines.

2 Modify the *{DPIPE_HOME}*/scripts/hourly_NNM_Avail.pro file.

Make the following changes:

- If you configured a copy policy for the RVNNM_Avail table on the central server (refer to task 5), comment out the following two lines in block1:

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

```
{DPIPE_HOME}/bin/ovpi_run_sql -sqlscript
{DPIPE_HOME}/scripts/{DBVENDOR}/update_SH_NNM_Avail.sql -logfile
{DPIPE_HOME}/tmp/update_SH_NNM_Avail.out
```

- Uncomment the following three lines in block2:

```
begin: block2 wait
```

```
{DPIPE_HOME}/bin/trendcopy -t SH_NNM_Avail
```

```
end: block2
```

- If you configured a copy policy for the RVNNM_Avail table on the central server (refer to task 5), uncomment the following line in block2:

  ```
  {DPIPE_HOME}/bin/trendcopy -t RVNNM_Avail
  ```

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

System Clocks

Make sure that the system clock on each satellite server is synchronized with the system clock on the central server.

5 Collecting Data from NNM 7.5x

This chapter covers the following topics:

- Adding and Modifying Properties
- Changing the HTTP Port Number of HP Interconnect on NNM
- Synchronizing Node or Category Information
- Changing the NNM Events Data Tool
- Checking and Debugging 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 PI forms.

Adding and Modifying Properties

Property information comes from the following sources:

- Forms bundled with the NNM Event and Availability 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: Create the NNM station list file
- Task 2: Import the NNM station list file
- Task 3: PI 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 30.

The 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 HP Interconnect port number is 8092.

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

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 NNM List Importer tool imports `NNM_List.dat` to the PI 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 faster.
3. Put the category list into PI.

By default, data collection takes place hourly. The periodicity (polling interval) of data aggregated by NNM is 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 in view, select the particular object you want 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 a new NNM station or modify the following details for an existing NNM station:

- PI port number
- Polling interval
- Polling granularity
- HTTP time-out

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`

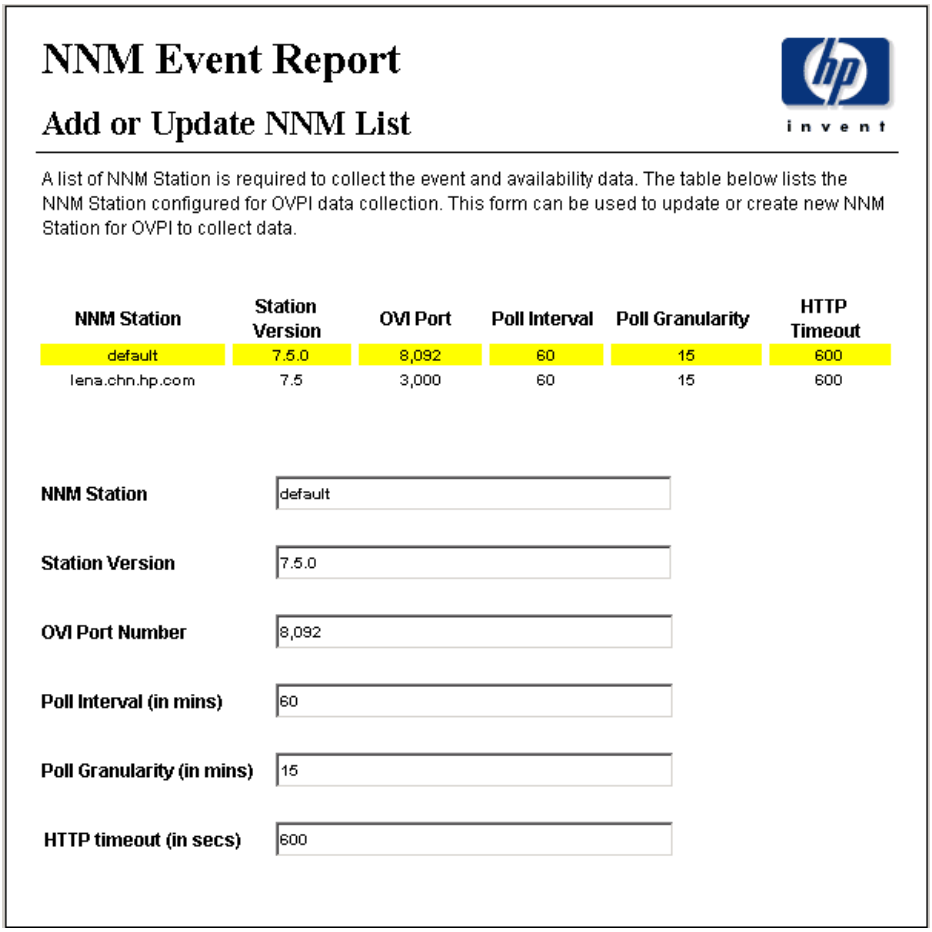
   For example, if Polling Interval is 180 mins, then change the entry as shown below:

   `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 your 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.



NNM Event Report

Add or Update NNM List

A list of NNM Station is required to collect the event and availability data. The table below lists the NNM Station configured for OVPI data collection. This form can be used to update or create new NNM Station for OVPI to collect data.

NNM Station	Station Version	OVI Port	Poll Interval	Poll Granularity	HTTP Timeout
default	7.5.0	8,092	60	15	600
lena.chn.hp.com	7.5	3,000	60	15	600

As soon as NNM 8.0 is supported, the Station Version field will display 8.0. For now, version 7.5x is the only value this field displays.

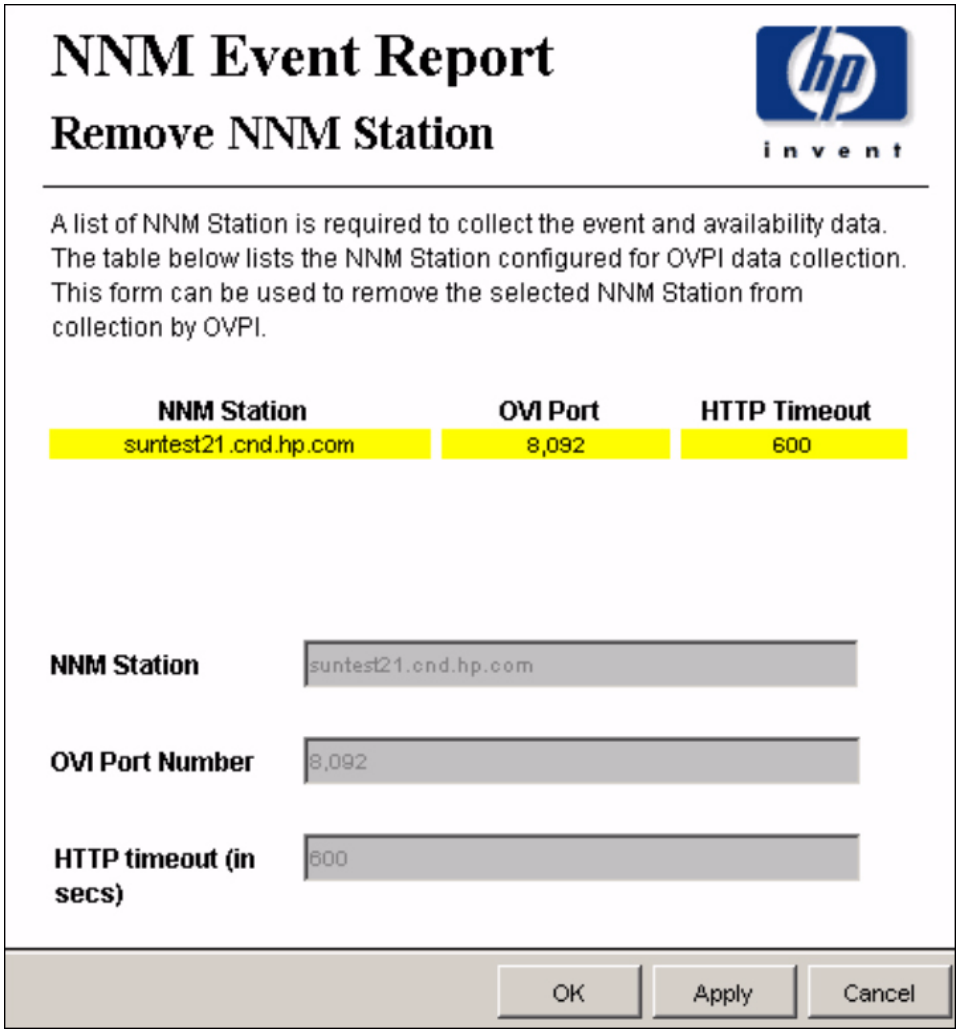
Remove NNM Station

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 NNM view. The NNM stations are listed here.
3. Select the NNM station you want to remove.
4. Double-click the Remove NNM Station form under **Object Specific Tasks**. The form opens, showing NNM stations configured for PI 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.



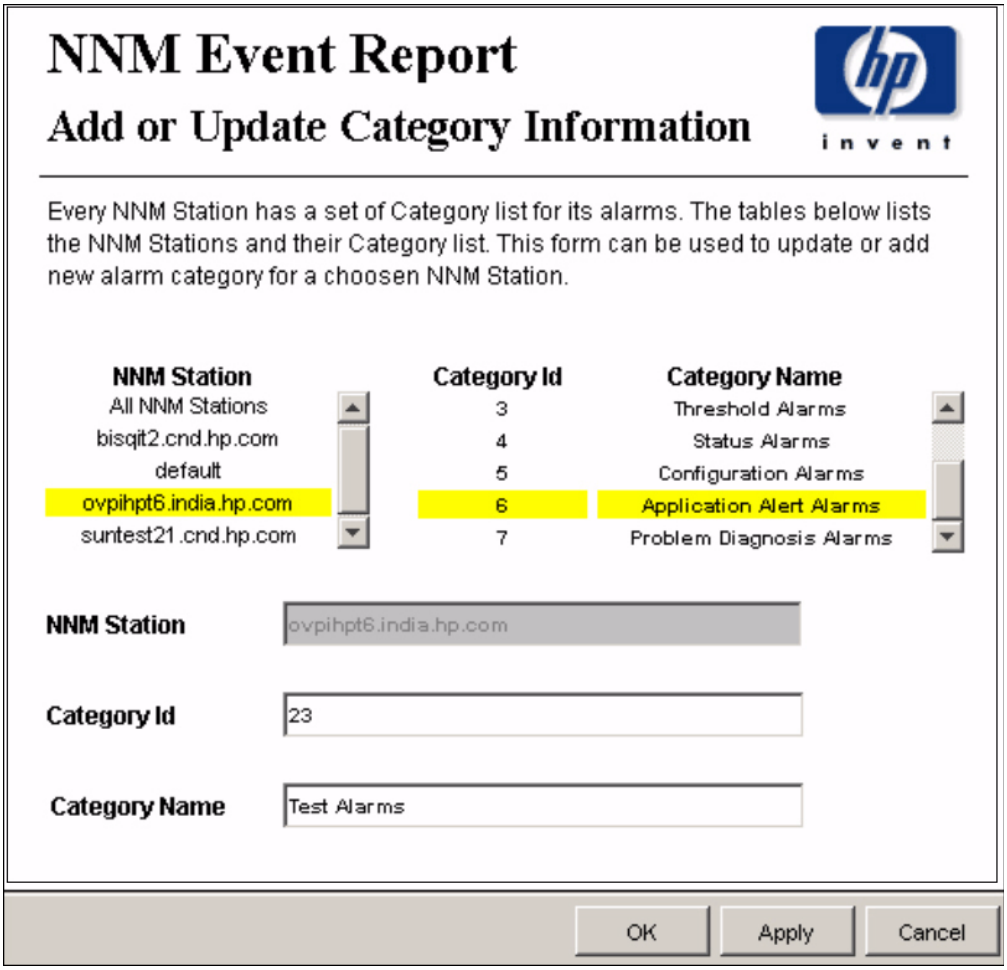
Add or Update Category Information

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.
6. 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:

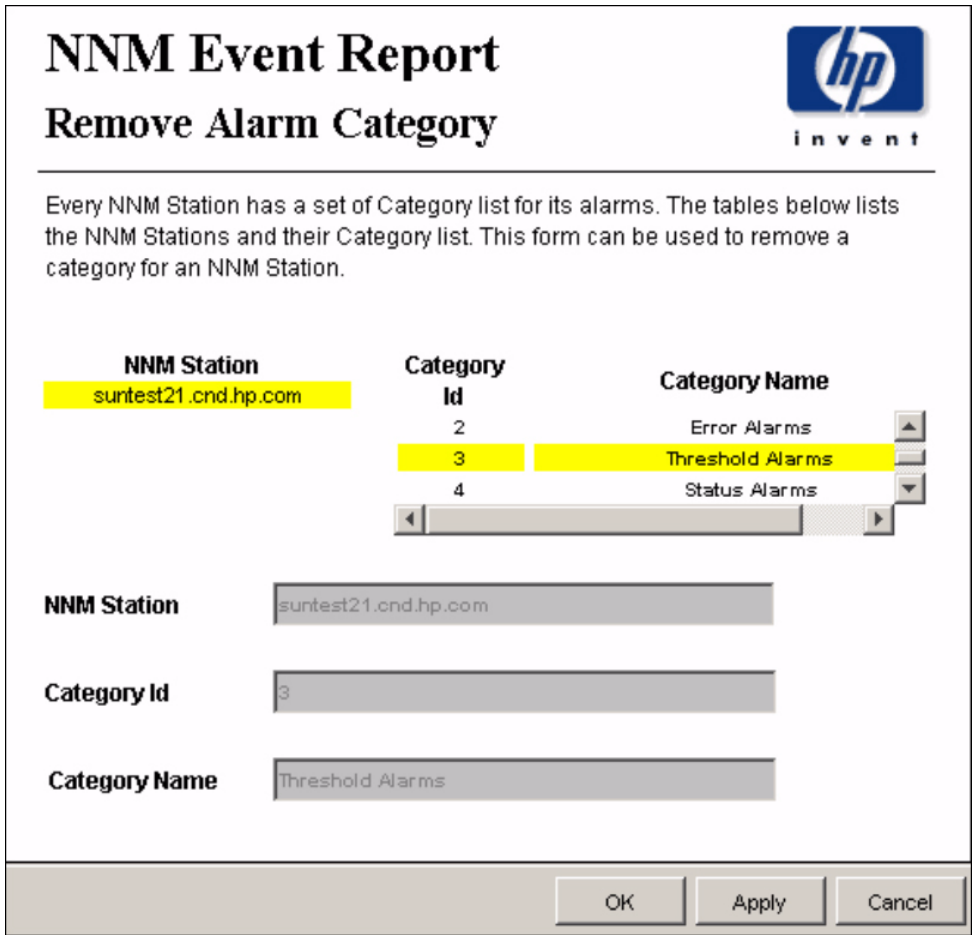
1. Select any row.
2. Enter the new Category Id and Category Name.
3. Click **Apply** to save changes, **OK** to save changes and close the form, or **Cancel** to close the form without saving changes.



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 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.

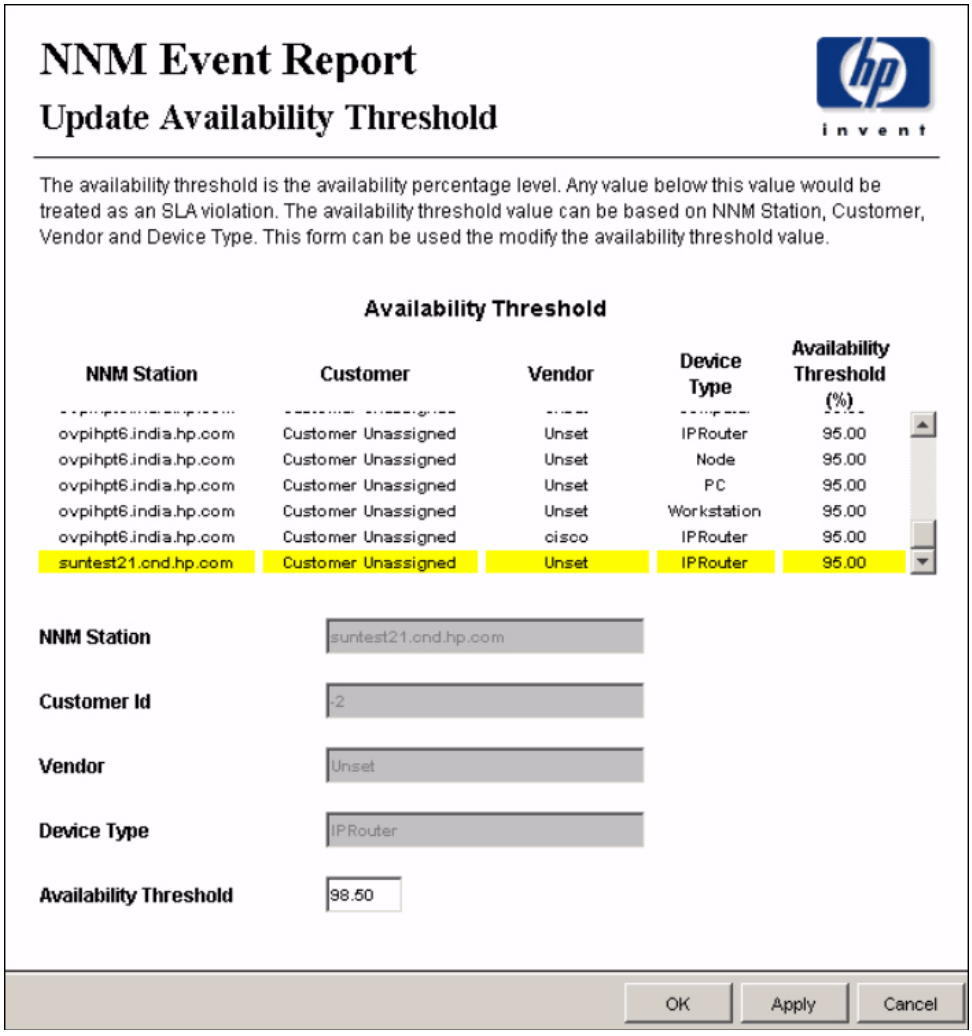


Update Availability Threshold

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 a list of NNM stations and an availability threshold for each station.
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 HP Interconnect 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 CommandResponder pluglet of HP Interconnect. To start or stop HP Interconnect, 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 NNM stations.

- To update the NNM Event and Availability 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`

- If you install new SPIs, the alarm category will change. To update the NNM Event and Availability Report Pack, use the following script to get node information:

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

Changing the NNM Events Data Tool

NNM uses the following tools to provide event data:

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

For more information about these tools, refer to *Managing Your Network with HP 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 new tool will be used in the next poll cycle.

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 and Debugging Collection Failures

To check and debug collection failures, perform the following steps:

1 Enable debugging instrumentation for NNM Event and Aggregation datapipe on the PI server by setting the environment variable DEBUG = 1. On PI, the collection details for all NNM stations will now be logged into the following file:

`$DPIPE_HOME/log/trend.log`.

Check for entries with `get_nnm_aggevt.pl`, the module that collects event data from NNM stations.

2 Enable debugging instrumentation for NNM Event and Aggregation datapipe on the NNM server by setting the environment variable DEBUG = 1. Then re-start the ICO_RNS service on the NNM server. On NNM, collection details and failures, if any, will now be logged into the following file:

`$OV_TMP/OVPI/NNM_EVT_RP_*log`

The following three scenarios discuss possible resolution steps if the NNM Event and Aggregation datapipe fails to collect event and downtime data from the NNM server:

Scenario 1

If the datapipe logs the following error message, then the NNM version you are currently using may not be supported:

```
Unsupported version for NNM [$nnm, $version], failed
```

To resolve this issue,

1 Open PI Management Console and then open the Object Manager.

2 The Add or Update NNM List form appears under **General Tasks.** Click on the form **Add or Update NNM List**.

3 Navigate to the NNM station you want to update and check if you have configured the supported NNM version for your NNM datapipe.

If not, then you need to edit this form and modify the NNM Server station version. For more information, see Add or Update NNM List on page 31.

Scenario 2

If the datapipe logs the following error message, then probably the HP Interconnect (OVI Service) is down on the NNM Server or is not responding to the datapipe's request:

`"Can't connect" to NNM Server`

To resolve this issue, log on to the NNM Server and see if the OVI Service is running. If not, then re-start it on the NNM Server. For more information about how to start and stop the OVI Service, see the process to re-start HP Interconnect in page 37.

Scenario 3

If the NNM datapipe returns "`<HTML>.*Error.*<HTML>`" or "`<HTML>.*Fail.*<HTML>`" then the NNM server is probably facing some difficulties in sending an HTTP response.

To resolve this issue, re-start the OVI Service on the NNM server or run the following command on the NNM server:

`OV_BIN/ovpi_agg_evtdump.ovpl`

6 Sample Reports

This chapter provides samples of the following reports:

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

Calculating Availability

The events coming from NNM station are collected and stored in Performance Insight for further calculation and reporting. You can configure the polling interval and the polling granularity.

Note that only those managed nodes that had an NNM node critical event are considered by Performance Insight for calculations. The calculation of node availability starts once the node becomes critical. This node appears on the Availability reports even after the node comes up. If a node did not have a node critical event, it will not appear on the Availability reports. The nodes that are not shown on the reports are interpreted by Performance Insight as 100 percent available over the specified time interval.

Availability Metrics

Following are the description and calculation of the metrics displayed on the PI reports:

- **Mean Time between Failures (MTBF)** - This term denotes the mean time in seconds for which the device was up and running before it went down again.
- **Mean Time to Repair (MTTR)** - This term denotes the mean time to repair or bring up the device. This metric is also termed as downtime.
- **Availability %** - This term denotes the percentage of time the device was available or up and running during the specified time period. The Availability % metric is calculated as follows:

Availability % = ((Total Time - Downtime) / Total Time) * 100

- **Downtime** - This term denotes the time in seconds when the device was down. Downtime is the same as MTTR.
- **Total Outage** - This term denotes the number of times a device went down in the specified time duration.

Example

The sample row in the following partial snapshot of a report shows the following metrics for the selected NNM station:

- Total number of outages = 1
- MTTR or Downtime metric value = 1524 seconds.
- Let us assume the polling interval is one hour or 86400 seconds, therefore,

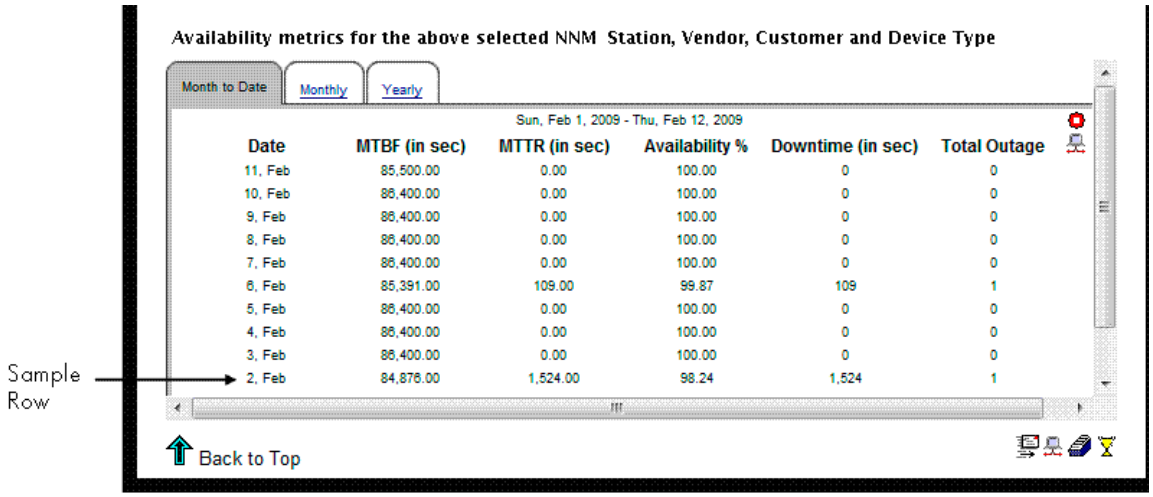
  Total Time = 86400 seconds.

Therefore, the Availability % is calculated as:

- Availability % = ((Total Time - Downtime) / Total Time) * 100

  = ((86400-1524)/86400) * 100

  = 98.24 percent.



Sample 1: Detailed Availability Report on Station Level

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. This report aggregates data 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: Detailed Availability Report on Node Level

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. This report aggregates data 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 3: 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 4: 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 5: 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 6: 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 7: 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. 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 8: 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 majority of events.

Sample 9: 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 the number of events in that alarm category, highest to lowest. Use this report to find out which devices are responsible for majority of events in each alarm category.

Sample 10: 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 11: Executive Summary by Severity

This report compiles data about the number of events per severity level. The results are available 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 On Station Level

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, monthly and yearly availability metrics.

NNM Station	Vendor	Customer	Device Type
All	HP	Customer Unassigned	Router
lena.chn.hp.com			

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

Month to Date | Monthly | Yearly

Sat, Sep 1, 2007 - Wed, Sep 26, 2007

Date	MTBF (in sec)	MTTR (in sec)	Availability %	Downtime (in sec)	Total Outage
25, Sep	645.50	182.00	78.01	4,004	22

Network Node Manager

Detailed Availability Report On Node Level

The Detailed Availability Report On Node Level, 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, and then select a node to view the daily, monthly and yearly availability metrics on this node.

NNM Station	Vendor	Customer	Device Type
All Station	None	None	None

NNM Nodes

Node Name	Availability Threshold
sahpt11.india.hp.com	95.00
sahpt19.india.hp.com	95.00

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

Month to Date | Monthly | Yearly

Sat, Sep 1, 2007 - Wed, Sep 26, 2007

Date	MTBF (in sec)	MTTR (in sec)	Availability %	Downtime (in sec)	Total Outage
25, Sep	646.00	244.00	72.58	2,684	11

Network Node Manager

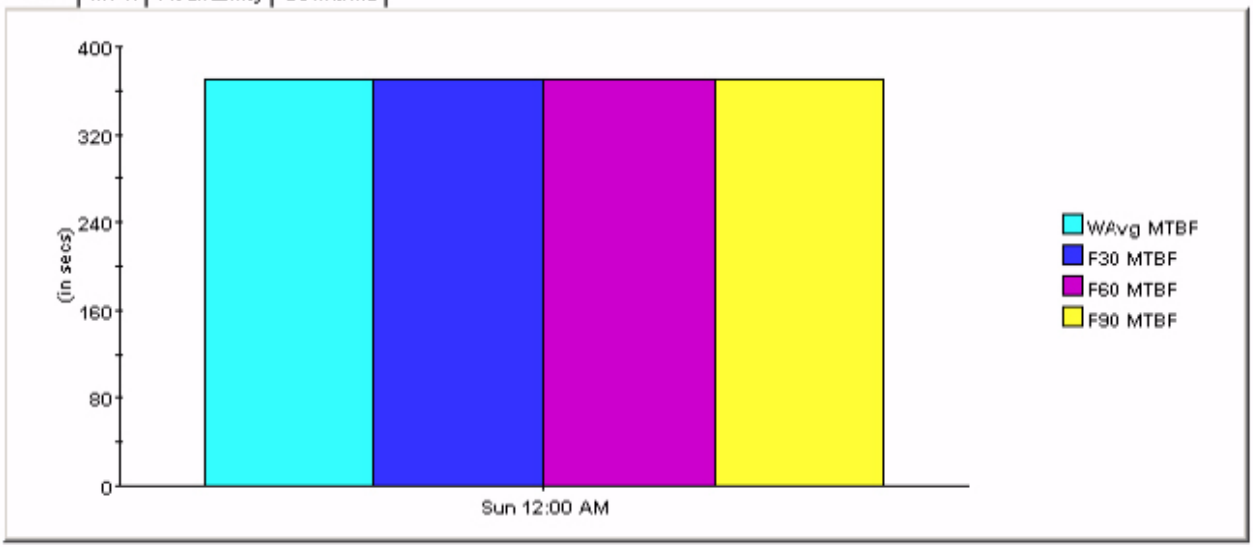
Availability: Forecast By Customer

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	Device Type
ABC	All
All Customers	Bridge
Halley	Router
Himalaya	
Ozzy	

Baseline Vs F30, F60 and F90 of metrics for the selected Customer and Device Type

MTBF | MTTR | Availability | Downtime



Network Node Manager

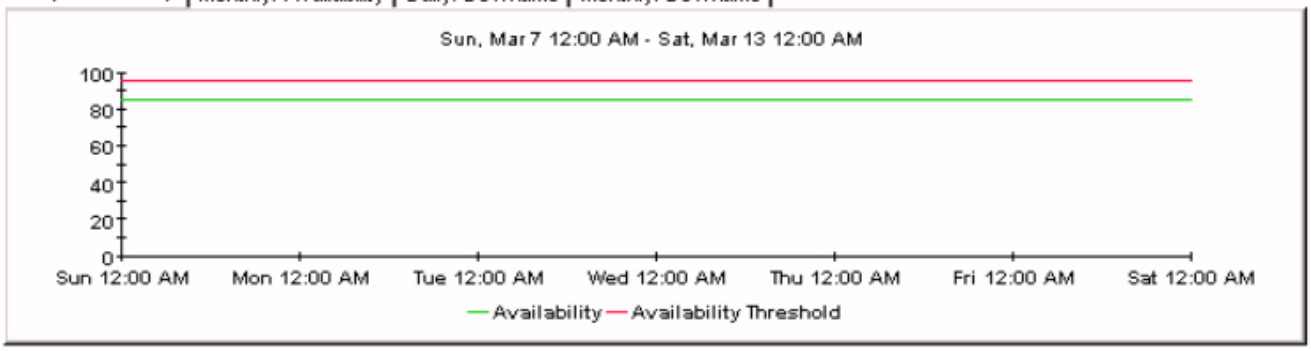
Availability: SLA Report

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

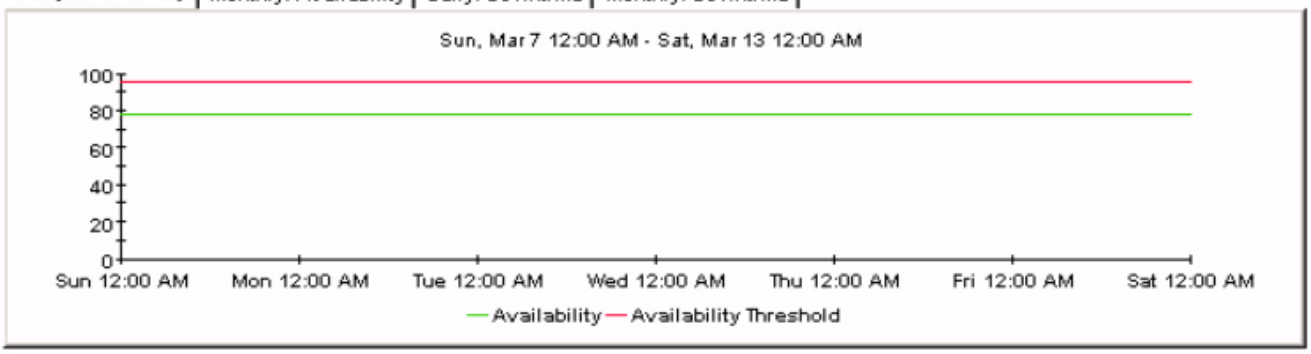
Daily: Availability | Monthly: Availability | Daily: Downtime | Monthly: Downtime



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.

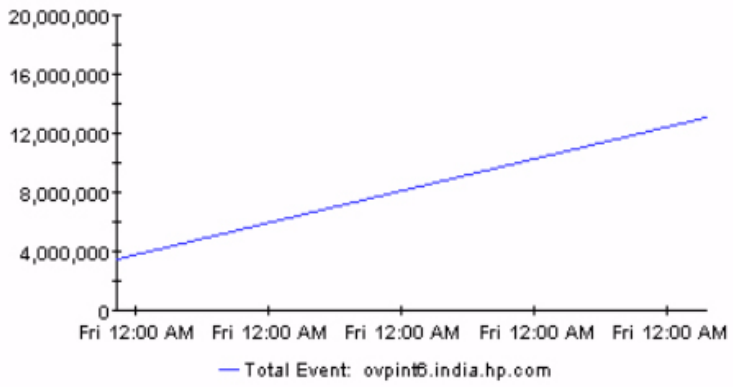
NNM Station
ovpint6.india.hp.com
ovpihpt6.india.hp.com

Vendor
All
Cisco
HP
Sun

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

Monthly Summary By Category

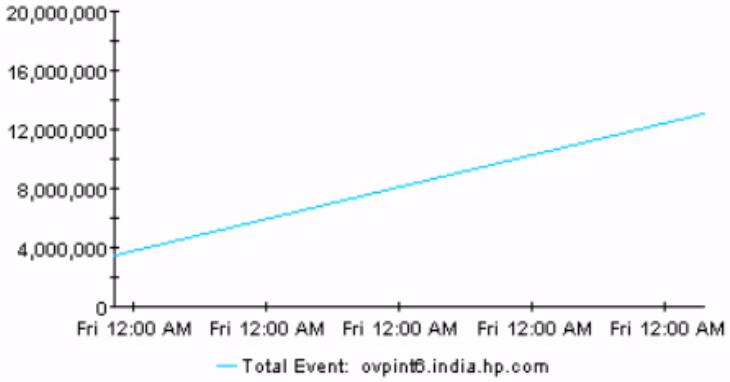
Thu, Jan 1 12:00 AM - Sun, Feb 1 12:00 AM



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

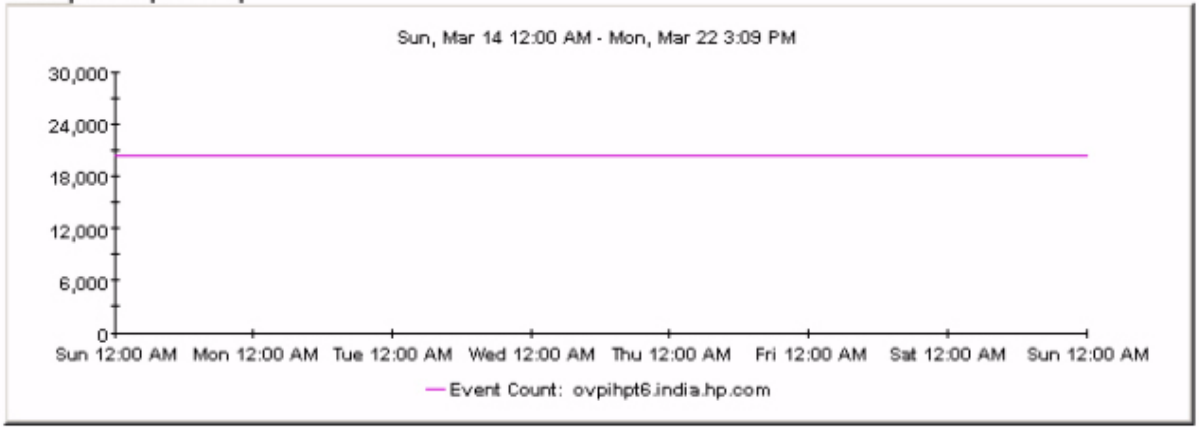
The NNM Event Report by NNM Station, gives event count based on NNM Stations. Select the NNM Station from the table below to view its event count summary.

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

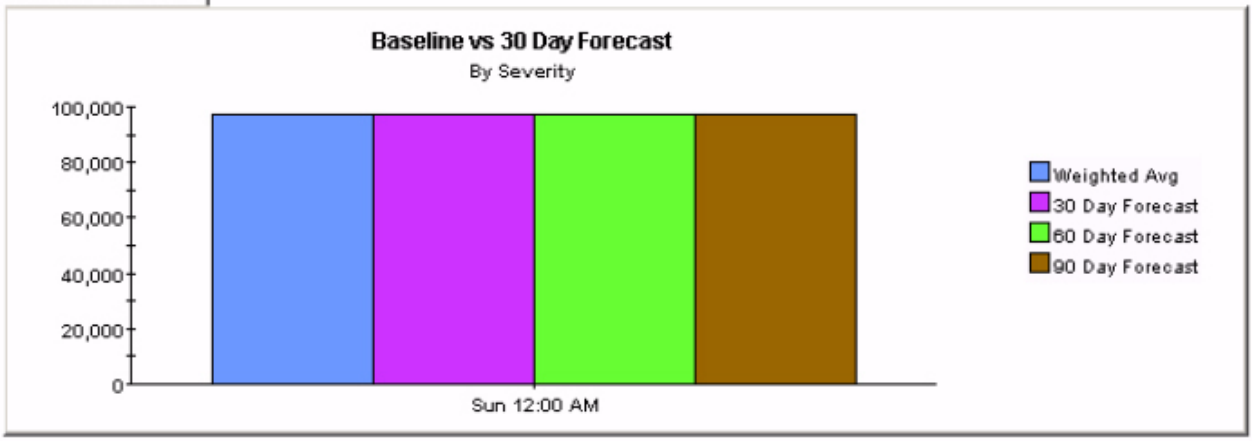
ovpihpt6.india.hp.com
ovpint6.india.hp.com

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

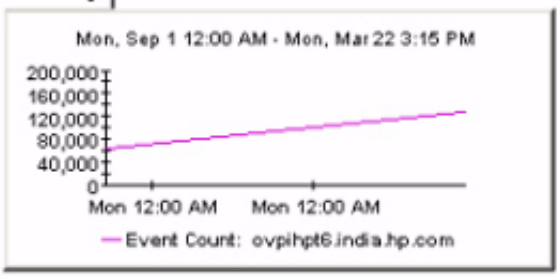
Vendor

AAA
All

Severity

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

Severity



Monthly Summary By Customer for Selected NNM Station

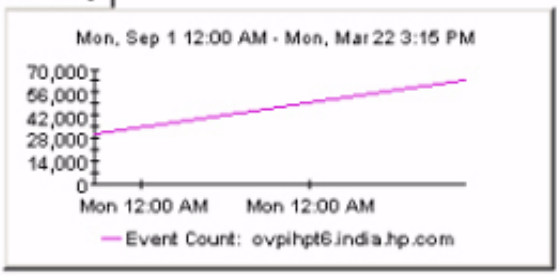
Customer

Halley
Himalaya
All Customers

Severity

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

Severity



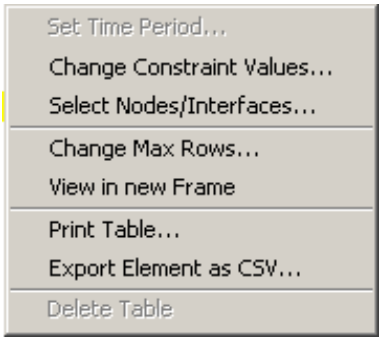
A Editing Tables and Graphs

Any table or graph can be viewed in several ways. Although the default view is usually adequate, you can easily change to a different view. If you are using Report Viewer, right-click the object to open a list of view options. If you are using the Web Access Server, follow these steps to change the default view of a table or graph:

1. Click **Preferences** on the links bar.
2. Expand **Reports** in the navigation frame.
3. Click **Viewing**.
4. Select the **Allow element editing** box.
5. Click **Apply**.
6. Click the Edit icon next to the table or graph.

View Options for Tables

Right-clicking a table, or selecting the Edit Table icon if you are using the Web Access Server, opens a list of table view options.



Select **Set Time Period** to alter the relative time period (relative to now) or set an absolute time period. The Set Time Period window opens.

You may shorten the period of time covered by the table from, for example, 42 days to 30 days or to 7 days. If you are interested in a specific period of time that starts in the past and stops *before* yesterday, click **Use Absolute Time** and select a Start Time and an End Time.

Select **Change Constraint Values** to loosen or tighten a constraint, thereby raising or lowering the number of elements that conform to the constraint. The Change Constraint Values window opens. To loosen a constraint, set the value lower; to tighten a constraint, set the value higher.

The **Select Nodes/Interfaces** allows you to change the scope of the table by limiting the table to specific nodes, specific interfaces, or a specific group of nodes or interfaces. The Select Node Selection Type window opens.

Change Max Rows increases or decreases the number of rows in a table. The default is 50. If you expand the default, the table may take more time to open. If you are trending a large network, using the default ensures that the table opens as quickly as possible.

View in new Frame opens the table in a Table Viewer window, shown below. If necessary, make the data in the table more legible by resizing the window.

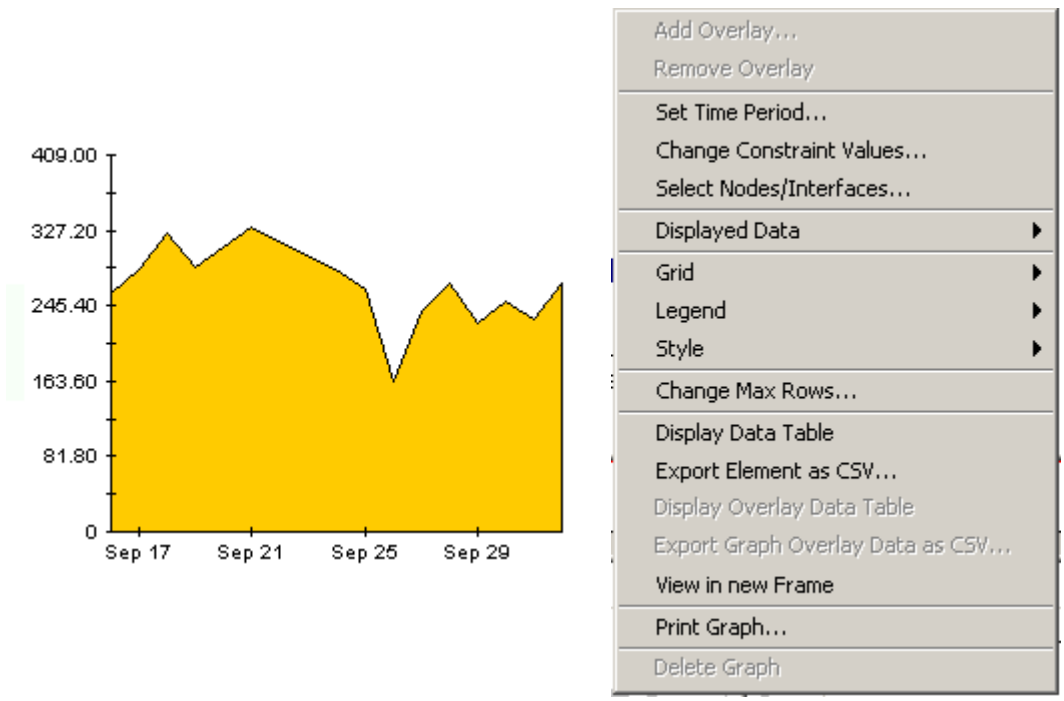
Table Viewer

Polled IP QoS Statistics Data - Input
Over Previous 6 Hours

Direction	IpPrecedence	Switched Bytes	Switched Pkts	Time Period
Input	0	105,688	675	Tue Oct 29 07:00 AM
Input	1	0	0	Tue Oct 29 07:00 AM
Input	2	0	0	Tue Oct 29 07:00 AM
Input	3	0	0	Tue Oct 29 07:00 AM
Input	4	0	0	Tue Oct 29 07:00 AM
Input	5	0	0	Tue Oct 29 07:00 AM
Input	6	600	5	Tue Oct 29 07:00 AM
Input	7	0	0	Tue Oct 29 07:00 AM
Input	0	98,334	638	Tue Oct 29 06:45 AM
Input	1	0	0	Tue Oct 29 06:45 AM
Input	2	0	0	Tue Oct 29 06:45 AM
Input	3	0	0	Tue Oct 29 06:45 AM
Input	4	0	0	Tue Oct 29 06:45 AM

View Options for Graphs

Right-clicking a graph, or clicking the Edit Graph icon if you are using the Web Access Server, opens the following list of view options.

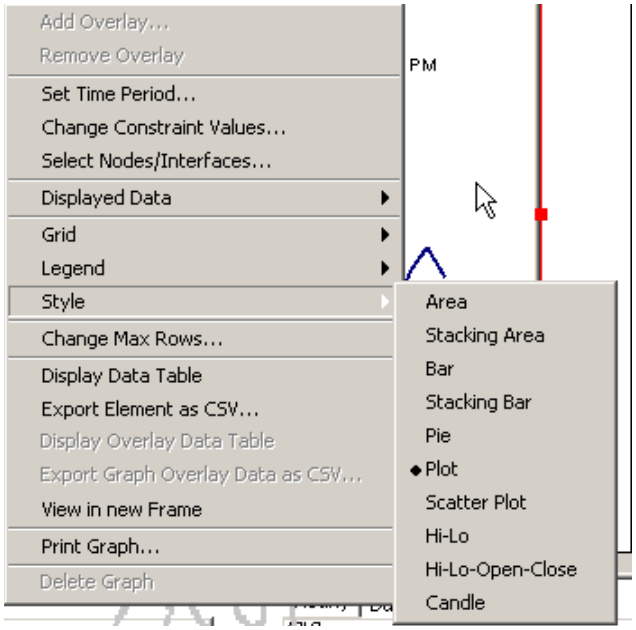


The following table provides details about each option.

Option	Function
Set Time Period	Same as the table option shown above.
Change Constraint Values	Same as the table option shown above.
Select Nodes/Interfaces	Same as the table option shown above.
Displayed Data	For every point on a graph, display data in a spreadsheet.
Grid	Add these to the graph: X axis grid lines Y axis grid lines X and Y axis grid lines
Legend	Delete or reposition the legend.
Style	See the illustrations below.
Change Max Rows...	Same as the table option shown above.
Display Data Table	See below.
Export Element as CSV...	Same as the table option shown above.
View in New Frame	Opens graph in a Graph Viewer window.
Print Graph	Same as the table option shown above.

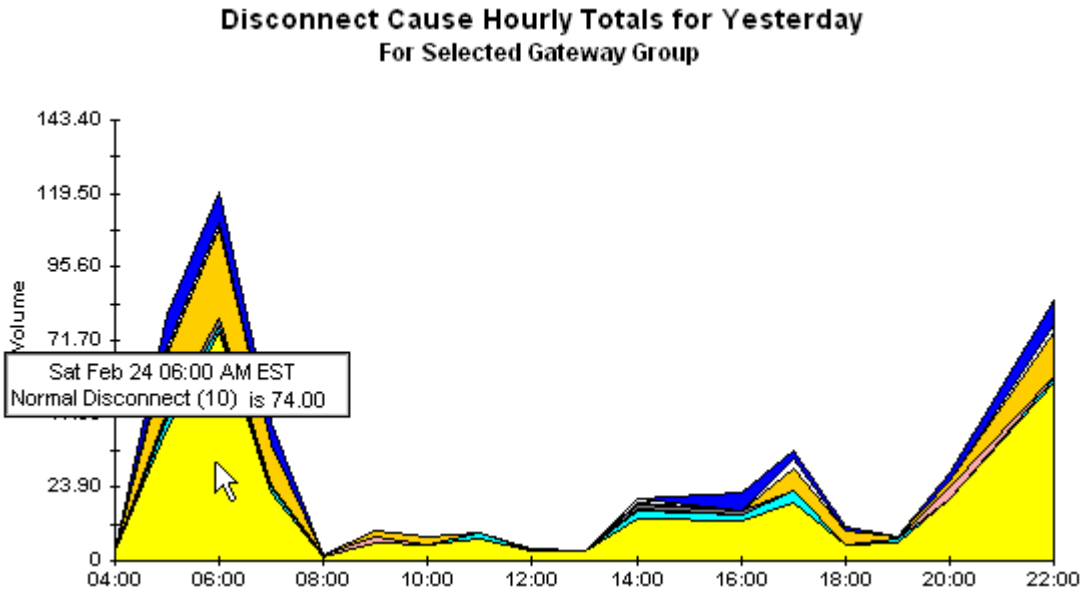
Style Options

Select **Style** to display a list of seven view options for graphs.



Style > Area

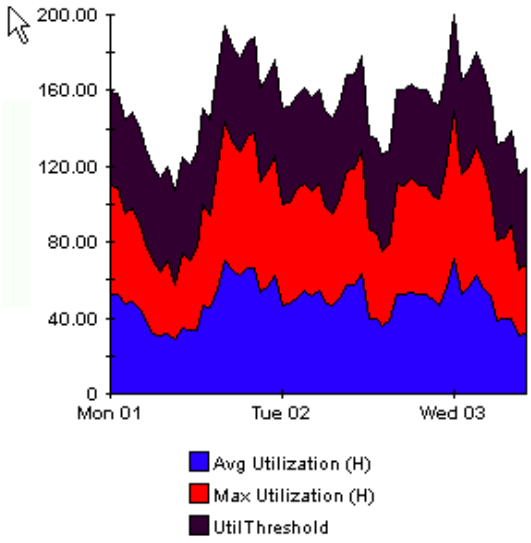
The plot or bar chart changes to an area graph. While relative values and total values are easy to view in this format, absolute values for smaller data types may be hard to see. Click anywhere within a band of color to display the exact value for that location



To shorten the time span of a graph, press SHIFT+ALT and use the left mouse button to highlight the time span you want to focus on. Release the mouse button to display the selected time span.

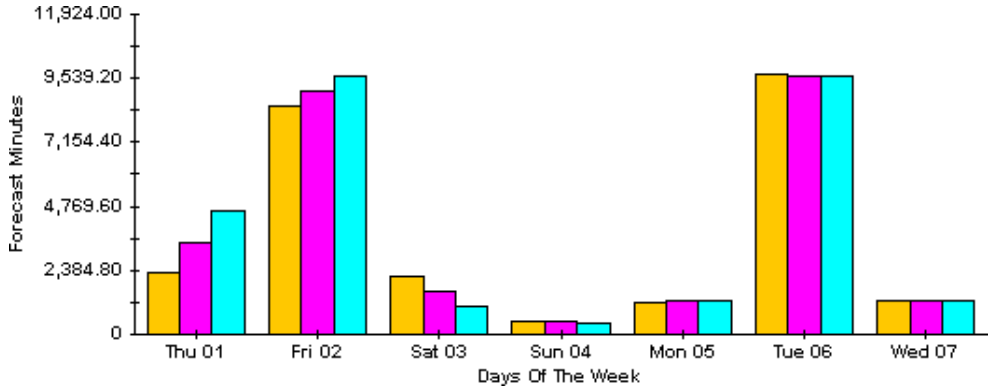
Style > Stacking Area

The area or plot graph changes to a stacking area graph. This view is suitable for displaying a small number of variables.



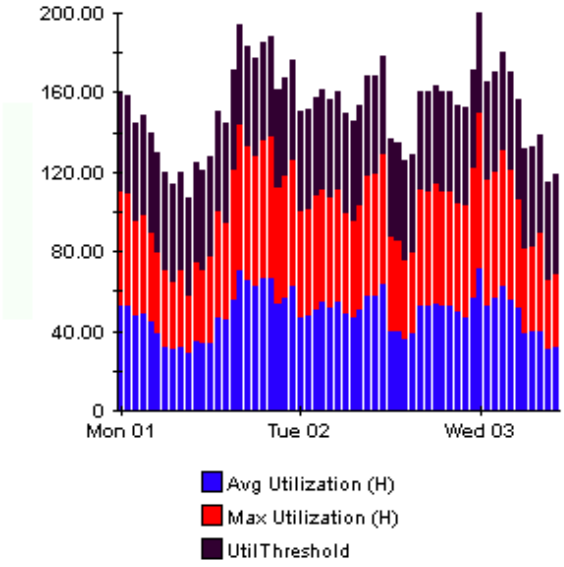
Style > Bar

The graph changes to a bar chart. This view is suitable for displaying relatively equal values for a small number of variables. There are three variables in the graph below.



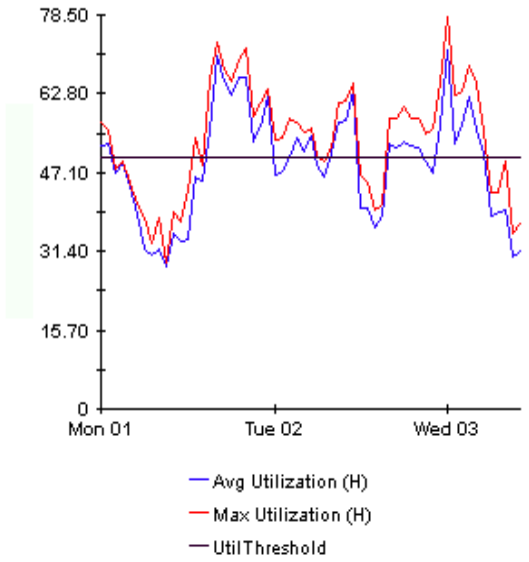
Style > Stacking Bar

The plot or area graph changes to a stacking bar chart. If you increase the width of the frame, the time scale becomes hourly. If you increase the height of the frame, the call volume shows in units of ten.



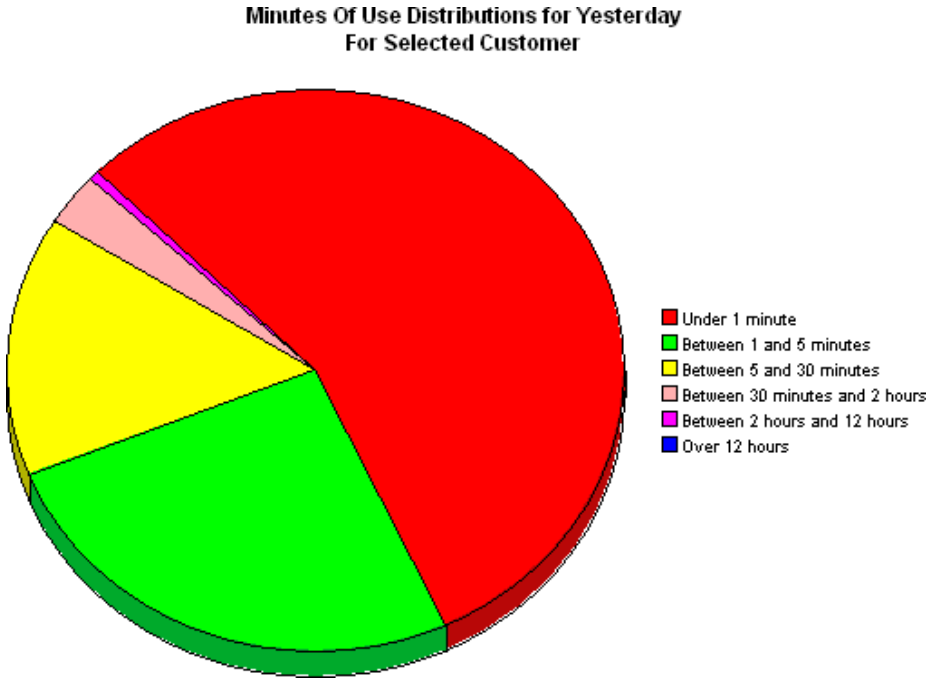
Style > Plot

Bands of color in an area graph change to lines. If you adjust the frame width, you can make the data points align with hour; if you adjust the frame height, you can turn call volume into whole numbers.



Style > Pie

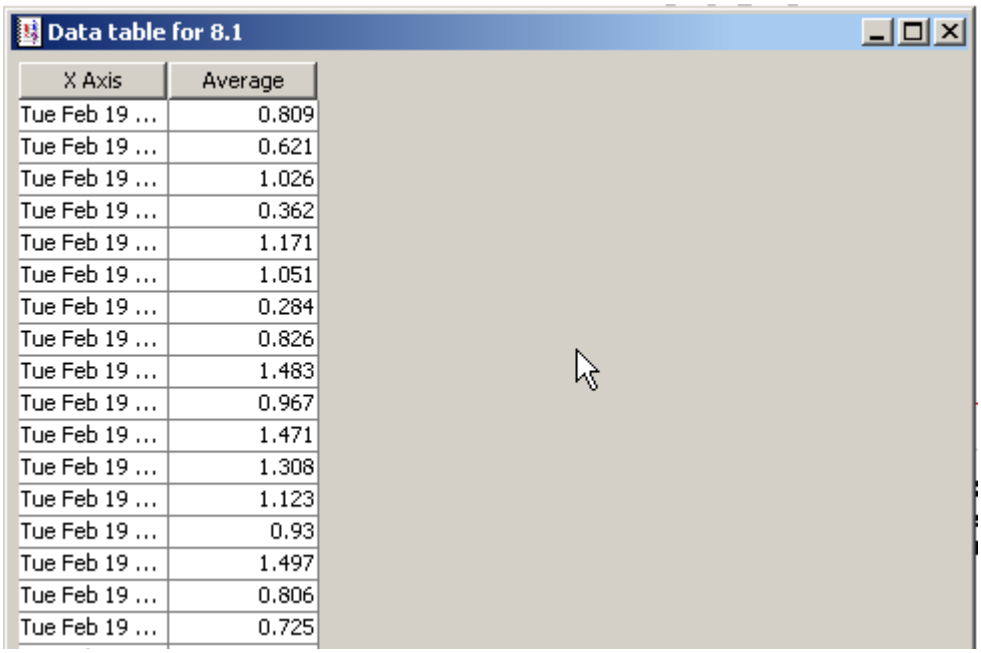
An area graph becomes a pie chart. Bands in an area graph convert to slices of a pie and the pie constitutes a 24-hour period. This view is helpful when a small number of data values are represented and you are looking at data for one day.



If you are looking at data for more than one day, you will see multiple pie graphs, one for each day.

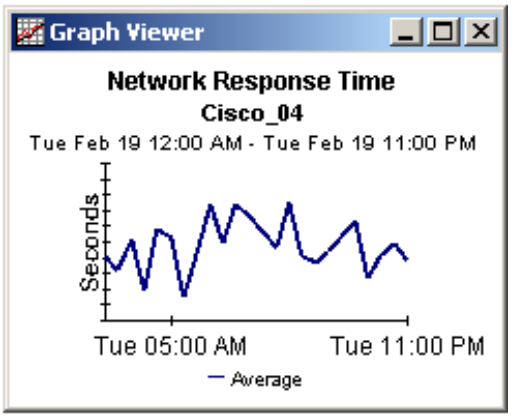
Display Data Table

This option changes a graph into a spreadsheet.



View in New Frame

The graph opens in a Graph Viewer window. Improve legibility by resizing the window.



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