# NNM Event and Availability Report Pack

Software Version: 1.0

HP OpenView Performance Insight

User Guide

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# Contents

# 1 Overview

This chapter covers the following topics:

- NNM Events and NNM Availability
- Folders and Reports
- Ways to Customize Reports
- Sources for Additional Information

## NNM Events and NNM Availability

HP OpenView Performance Insight (OVPI) is a performance management and reporting application. Long-term data collection, in-depth analysis, and automated web-based reporting are this application's primary strengths. The NNM Event and Availability Report Pack installs on OVPI. This report pack displays trending analysis for event and downtime data collected from NNM management stations.

NNM uses the following attributes to define an event:

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

This report pack lets you see event and downtime data aggregated in helpful ways. You can see whether availability for a particular device is improving or worsening, and you can see whether availability for a particular customer is improving or worsening. You can look at the distribution of alarms across alarm categories, and you can see the trend line for each alarm category. You can also look at the distribution of severity levels and see the trend line for each severity level. In addition, you can find out which devices are responsible for the majority of alarms in each alarm category.

## Folders and Reports

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

- Availability

- Event

The **Availability** directory contains four reports:

- 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 seven reports:

- 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 four reports:

- 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 four reports:

- 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

The Consolidated directory contains five reports:

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

# Ways to Customize 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 OVPI 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 *OVPI 5.1 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 1.0 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*

• *OVPI Report Packs, Version 8.0: Release Notes, June 2005*

Manuals for the core product, OVPI, and manuals for the reporting solutions that run on OVPI can be downloaded from the following site:

**http://www.managementsofteware.hp.com/**

Select **Support > Product Manuals** to open the **Product Manual Search** page. Manuals for OVPI are listed under **Performance Insight**. Manuals for report packs, datapipes, and shared packages are listed under **Performance Insight Reporting Solutions.**

The manuals listed under **Performance Insight Reporting Solutions** show the month and year of publication. If a user guide is revised, the date of publication will change. Since we post revised user guides on a regular basis, we recommend searching this site for updates before using an older manual that might not be the latest version available.

# 2 Package Installation

This chapter covers the following topics:

- Prerequisites Related to Integration with NNM
- Prerequisites Related to OVPI
- Installing NNM Event and Availability
- Accessing Deployed Reports
- Package Removal

## Prerequisites Related to Integration with NNM

The NNM Event and Availability Report Pack cannot function unless your NNM server and your OVPI server are integrated. If your NNM server and your OVPI server are not integrated, install the NNM/OVPI Integration Module. When you install the Integration Module observe these guidelines:

- Make sure that the OVPI server and the NNM server are in sync with regards to time and make sure they are in the same time zone.
- On the NNM server, make sure that the environment variables in ov.envvars.(sh|bat) is sourced before installing Integration Module packages.
- On the NNM server, make sure that you do not have a running service that uses port 8092.
- Before installing Integration Module packages on a Windows-based NNM server, make sure that the Perl shipped with NNM is first in the Windows environment variable PATH, before any other version of Perl installed on that system. In some instances, a reboot may be required for the change in the environment variable to take effect.
- On the NNM server, make sure that the ICO_RNS service/process is started and running.

➤ ICO_RNS moves event data from NNM to OVPI. Although the installation process creates the service and sets the start status to *automatic*, it does not actually start the service. If your operating system is Windows, you must start the service manually the first time you run it. Later, when the machine is restarted, ICO_RNS will start automatically.

## Prerequisites Related to OVPI

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

- OVPI 5.0 or higher

- All Service Packs available for the version of OVPI (5.0 or 5.1) you are running
- Common Property Tables 3.5

# Installing NNM Event and Availability

Perform the following tasks to install the report pack:

- Task 1: Stop OVPI Time 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/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 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 parent directory for the report pack:
> - 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 report pack.

**Task 2:   Upgrade Common Property Tables**

If you are running an older version of Common Property Tables, for example, version 3.0, upgrade to Common Property Tables 3.5. If you are not running any version of Common Property Tables, skip this task.

Installing the "to_3.5" 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 "to_3.5" upgrade package and *only* the "to_3.5" upgrade package. When the installation is complete, click **Done** to return to the Management Console.

### Task 3: Installing NNM Event and Availability Report Pack 1.0

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 packages:

   *Common Property Tables 3.5* (if not already installed)

   *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**.

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/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 OVPI Application Server. Once reports reside on the OVPI Application Server, you have two ways to view them:

• OVPI 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 *OVPI 5.1 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 *OVPI 5.1 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/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 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.

   *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/ovpi_timer start`

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

# 3 Distributed Systems

If you intend to run the NNM Event and Availability Report Pack in a distributed environment across multiple servers, you must configure the central server and each satellite server. This chapter covers the following topics:

* Configuring the central server
* Configuring a satellite server
* Synchronizing system clocks

## 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 `$DPIPE_HOME/lib/trendtimer.sched` file. To ensure that the satellite server completes hourly summarizations before the central server does the same, change the OVPI Timer start time from 1:00 to 1:00+20. By default, this process starts at beginning of every hour.

# 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.

# System Clocks

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

# 4 Provisioning NNM Management Stations

This chapter covers the following topics:

- Adding and Modifying Properties
  - — Using bulk import
  - — Using forms bundled with the NNM Event and Availability Report Pack
- Changing the HTTP Port Number of OVI on NNM
- Synchronizing Node or Category Information
- Changing the 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 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: 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 18.

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 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 NNM List Importer tool imports `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, 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 displayed, 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 or modify the following:

- OVPI 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 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 Station 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 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 OVPI.

- `ovdwquery`: This tool is based on RDBMS.

For more information about 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 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 Collection Failures

Check the following log files in sequence:

1  On OVPI, the collection details for all NNM stations are logged in `$DPIPE_HOME/log/trend.log`. Check for entries with `get_nnm_aggevt.pl`, the module that collects event data from NNM stations.

2  On NNM, collection details and failures, if any, are logged in

   `$OV_TMP/OVPI/NNM_EVT_RP_*log`

# 5 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. 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: 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. 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 majority 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 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 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. 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

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 | 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

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
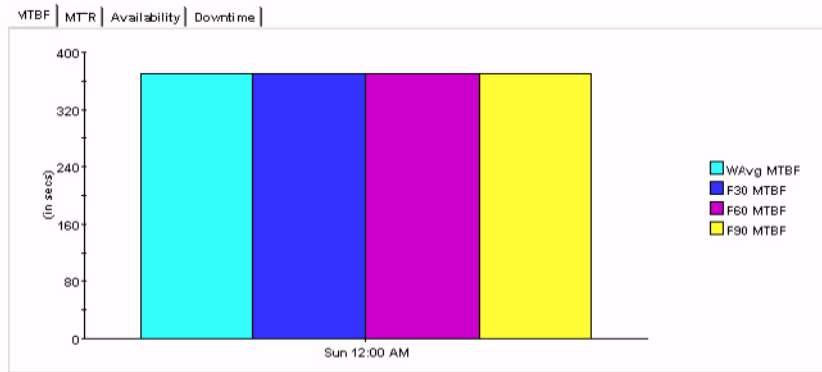
# Network Node Manager

## 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

Sun, Mar 7 12:00 AM - Sat, Mar 13 12:00 AM



— Availability — Availability Threshold
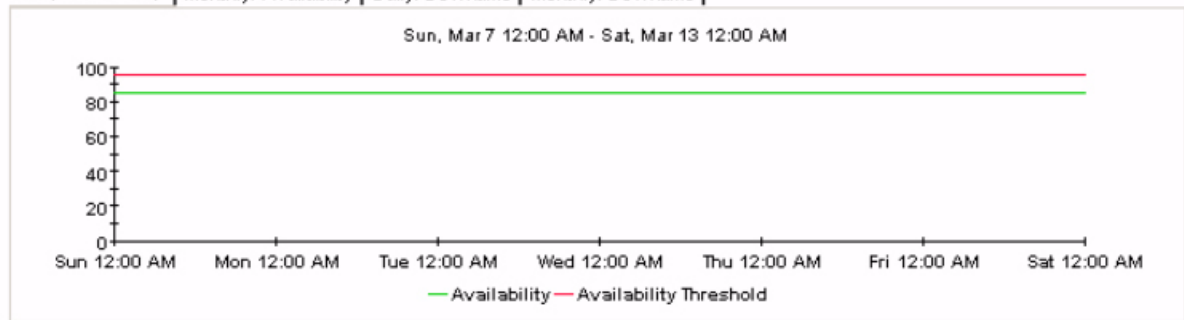
| Customer | Device Type |
|----------|-------------|
| Customer Unassigned | All |
| All Customers | Bridge |
| ABC | Router |
| Ozzy | |
| Halley | |
| HaleBob | |

### Availability and Downtime details for the selected Customer and Device Ttype

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

Sun, Mar 7 12:00 AM - Sat, Mar 13 12:00 AM



— Availability — Availability Threshold
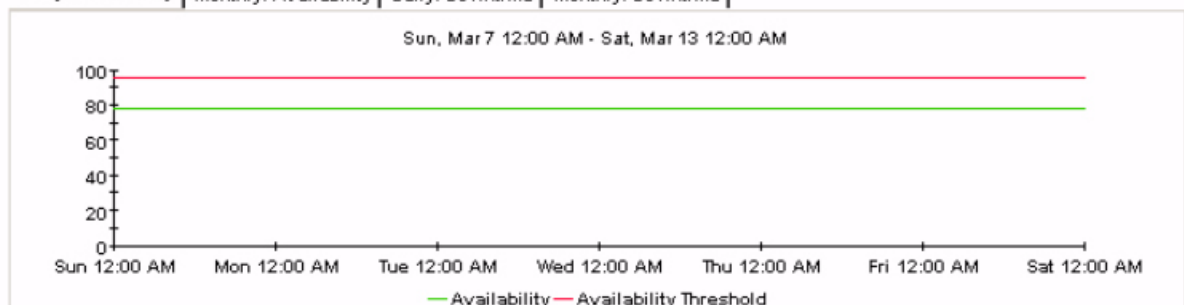
# Network Node Manager

## 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

—Total Event: ovpint6.india.hp.com
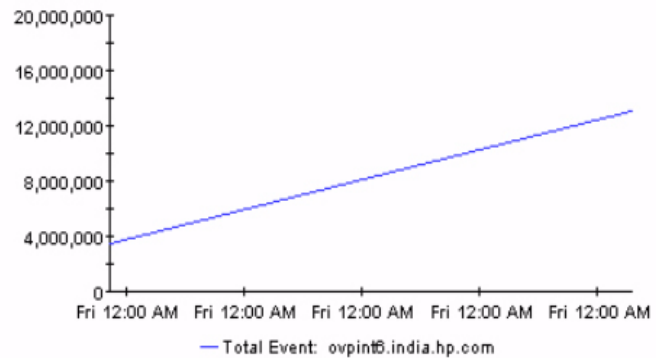
### Severity

All Severities
Critical
Major
Minor
Normal
Warning

### Monthly Summary By Severity
Thu, Jan 1 12:00 AM - Sun, Feb 1 12:00 AM

—Total Event: ovpint6.india.hp.com

# 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 | | | Severity | |
|---|---|---|---|---|
| ovpihpt6.india.hp.com | | | Severity ID | Severity |
| ovpint6.india.hp.com | | | -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



Baseline vs 30 Day Forecast
By Severity

Legend:
- Weighted Avg
- 30 Day Forecast
- 60 Day Forecast
- 90 Day Forecast
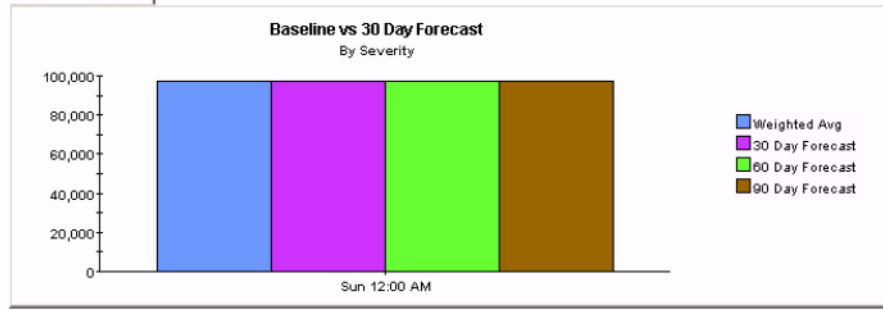
# Network Node Manager

## 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 | | Severity | |
|---|---|---|---|
| | | sev_id | sev_name |
| All | | -1.00 | All Severities |
| ovpihpt6.india.hp.com | | 1.00 | Normal |
| ovpint6.india.hp.com | | 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 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 | Severity | |
|---|---|---|
| | Severity ID | Severity |
| All | -1 | All Severities |
| ovpihpt6.india.hp.com | 1 | Normal |
| ovpint6.india.hp.com | 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.
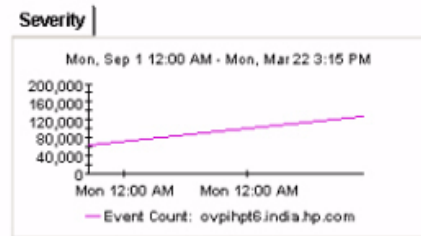
### NNM Station

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

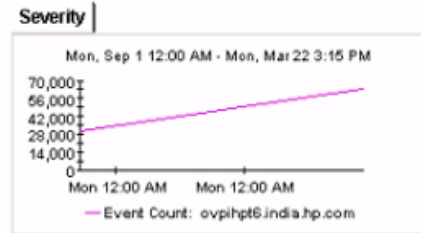### Monthly Summary By Vendor for Selected NNM Station

| 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

# A   Editing Tables and Graphs

Any table or graph can be viewed in several ways. While 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.

```
Set Time Period...
Change Constraint Values...
Select Nodes/Interfaces...

Change Max Rows...
View in new Frame

Print Table...
Export Element as CSV...
Delete Table
```
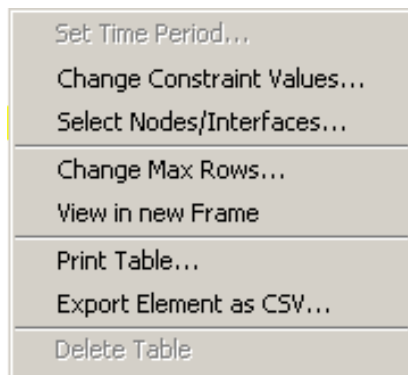
Select **Set Time Period** to alter the relative time period (relative to now) or set an absolute time period. The Set Time Period window opens.

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.



### 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.
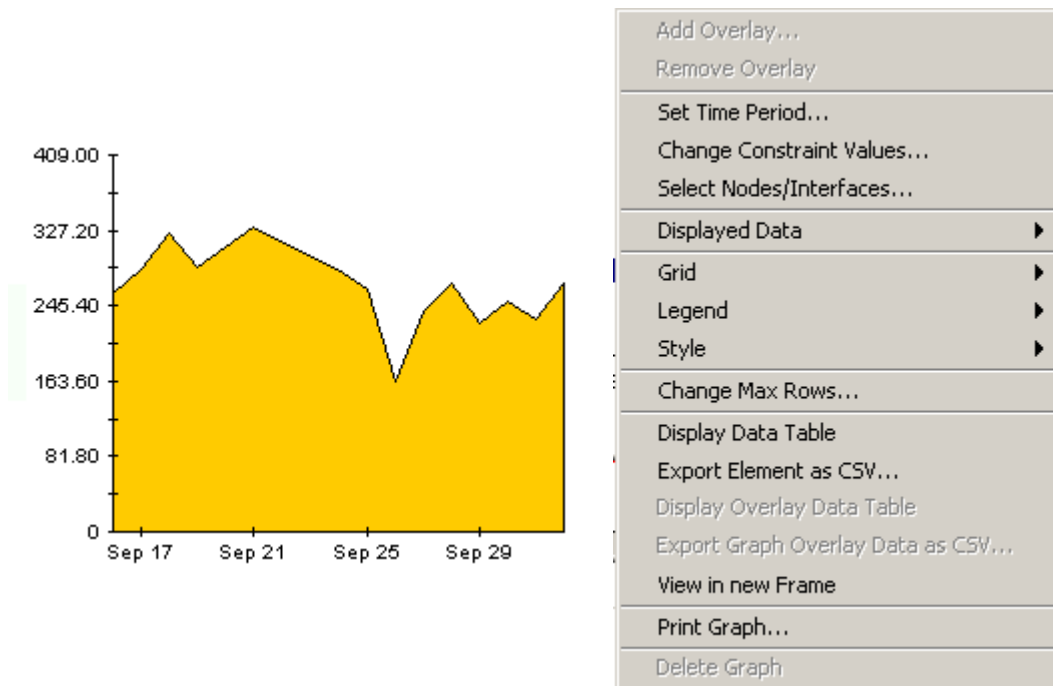
The following table provides details about each option.

| 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:<br>X axis grid lines<br>Y axis grid lines<br>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.
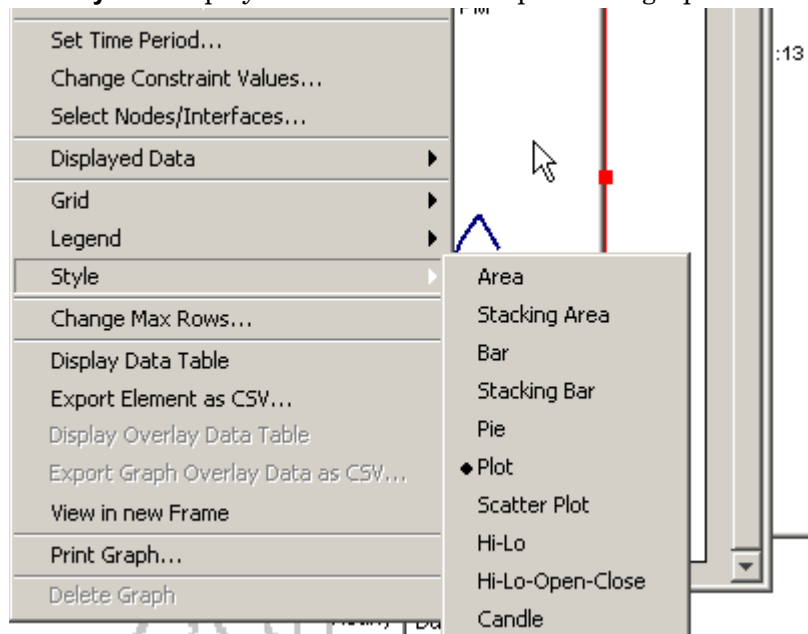
## Style > Area

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
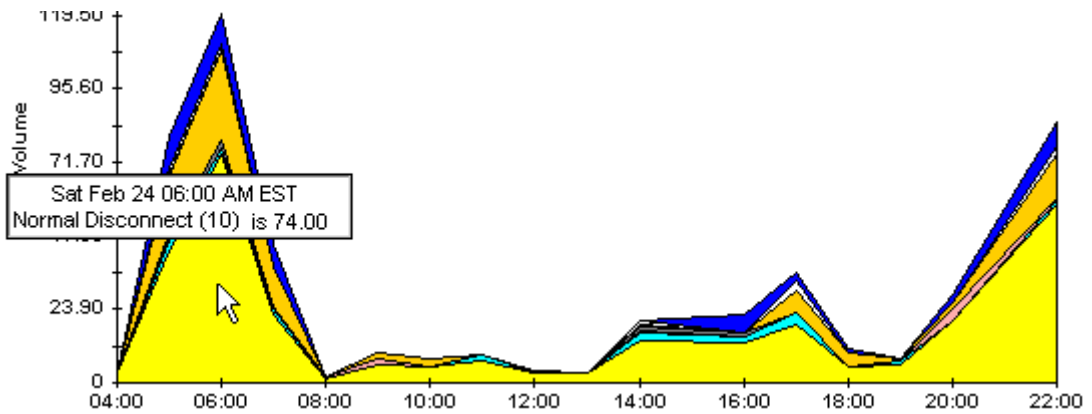


To shorten the time span of a graph, press SHIFT+ALT and use the left mouse button to highlight the time span you want to focus on. Release the mouse button to display the selected time span.

## 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.
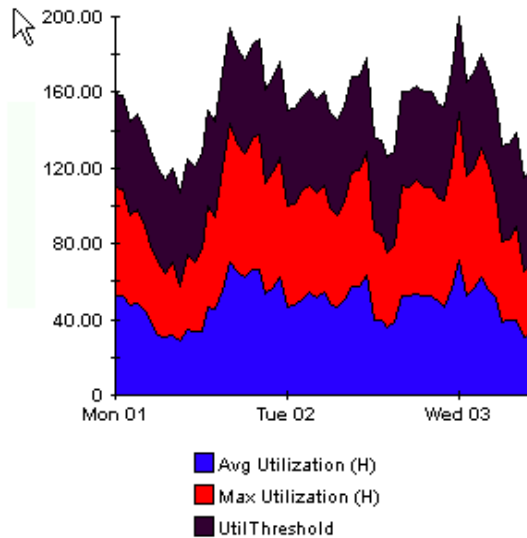
## Style > Bar

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.
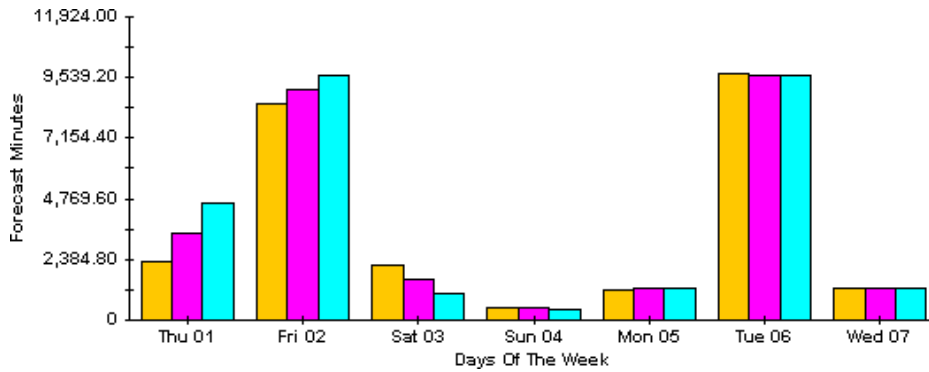


## Style > Stacking Bar

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.
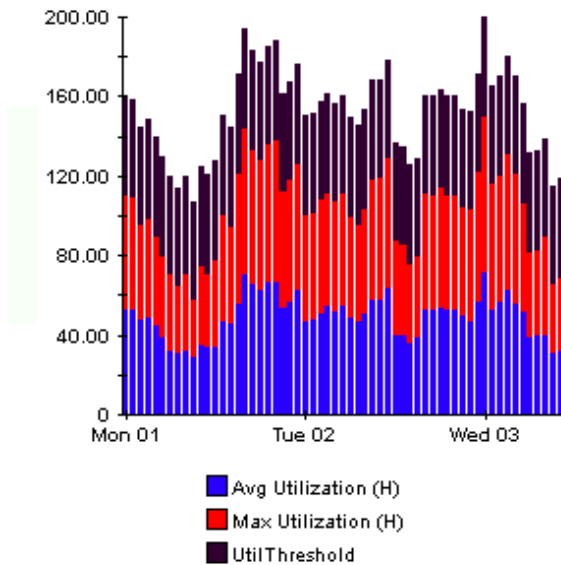
## Style > Plot

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.
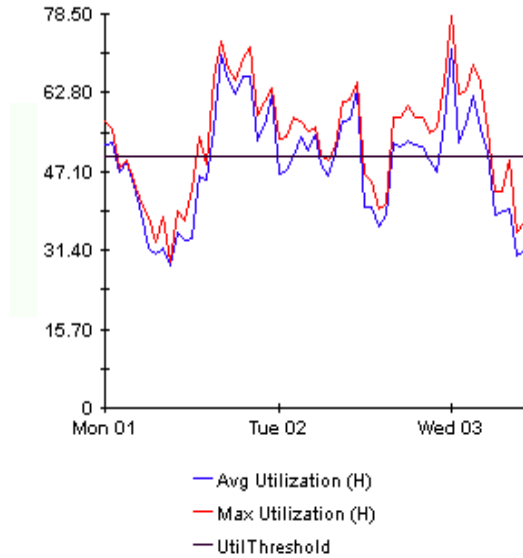


## Style > Pie
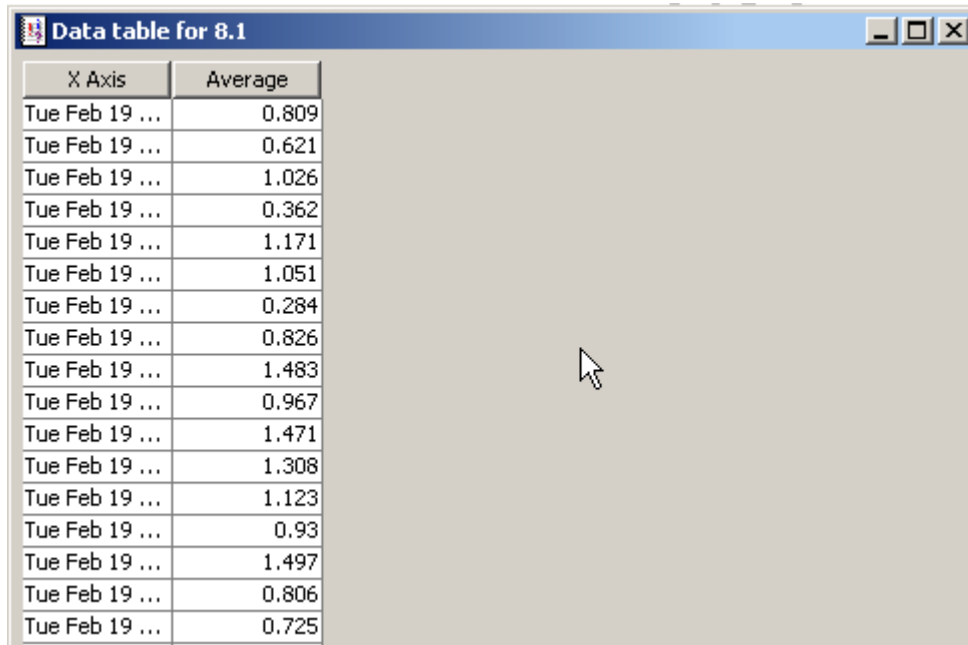
An area graph becomes a pie chart. Bands in an area graph convert to slices of a pie and the pie constitutes a 24-hour period. This view is helpful when a small number of data values are represented and you are looking at data for one day.
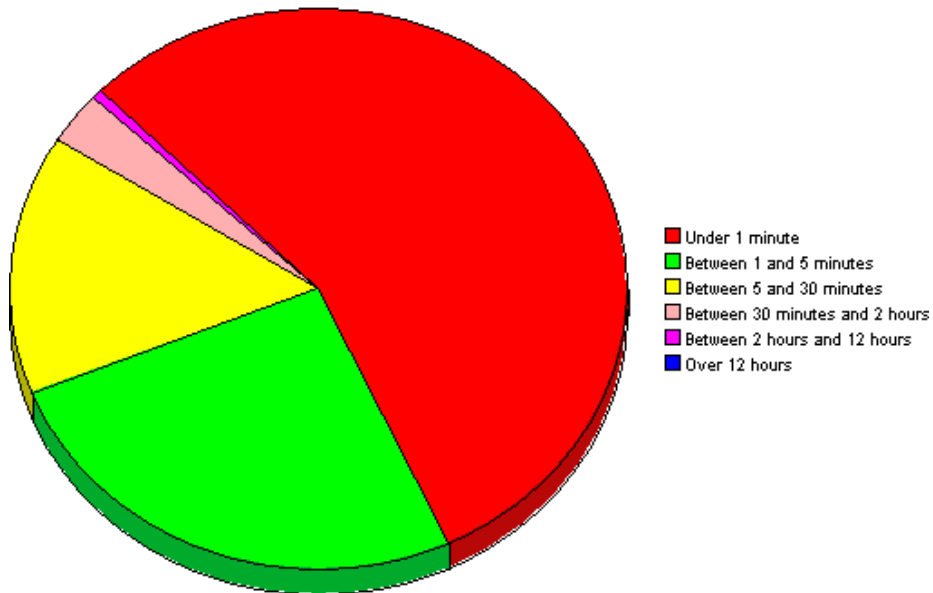


If you are looking at data for more than one day, you will see multiple pie graphs, one for each day.

## 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.

# Index