

HP OpenView Performance Insight

Report Pack for IP Access Rate Reporting User Guide

Software Version: 3.0

Reporting and Network Solutions



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- Problem reporting
- Training information
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Overview

This chapter gives an overview of IP Access Rate Reporting report pack. This chapter covers the following topics:

- QoS Reporting from OVPI
- IP Access Rate Reports
- Enhancements in Version 3.0
- Adding and Modifying Properties
- Ways to Customize IP Access Reports
- Integration with NNM
- Sources for Additional Information

QoS Reporting from OVPI

The IP Access Rate Reporting package is part of the OpenView Performance Insight (OVPI) solution for QoS reporting. This package produces QoS metrics for interfaces configured with rate limiting objects. IP Access Rate Reporting report pack is a supplement to the Interface Reporting Report Pack. Its functions are similar to the QoS Statistics package, which focuses on IP precedence levels.

The MIB produces QoS metrics for interfaces configured with Rate Limit Objects (RLOs). An RLO acts as a unidirectional traffic policing rule on the configured interface.

An RLO policy is similar to, *Watch the traffic on this interface in a certain direction; if the traffic exceeds a certain threshold for certain devices, perform some action.* An interface may have multiple RLO policies set on it, and each will be executed sequentially based on the number assigned to each RLO by the router administrator who creates them.

Introduction

QoS refers to the capability of a network to provide better service to select traffic on networks spanning over various technologies, including IP-routed networks that may use any or all of these underlying technologies. The primary goal of QoS is to provide priority ("precedence" in the QoS world). For this, do the following:

- Dedicate bandwidth to particular traffic types

- Control jitter and latency (required by some real-time and interactive traffic)
- Improve loss characteristics
- Ensure that providing priority for one or more flows does not adversely affect other flows.

The data collection mechanism for the IP Access Rate Reporting report pack is the Cisco IP Access Rate Datapipe. This datapipe polls the CISCO-CAR-MIB for the following metrics:

- Switched bytes
- Filtered bytes
- Burst rate
- Discards
- Errors

Enhancements in Version 3.0

IP Access Rate Reporting report pack Version 3.0 is designed for OVPI 5.0 and provides support for Oracle as well as Sybase database software.

Adding and Modifying Properties

Unlike other OVPI reporting solutions you may be familiar with, there is no separate property import for IP Access Rate Reporting report pack. The property information that pertains to an interface, such as interface speed, customer, location, and device name, is inherited automatically from the Interface Reporting. The IP Access Rate Reporting report pack derives property information from two sources:

- The property import utility bundled with the Interface Reporting package
- Common Property Tables

For more information about updating the property information for IP Access Rate Reporting report pack, refer to the following manuals:

- *Interface Reporting 4.0 User Guide*
- *Common Property Tables 3.0 User Guide*

IP Access Rate Reports

IP Access Rate Reporting report pack version 3.0 contains the following reports:

Near Real Time Activity. Interfaces with high filtering ratios, based on rate data collected over the previous six hours. Also provides rate data for traffic volume in terms of switched bytes and filtered bytes, and burst rate. To be included in this report, the interface had to have some activity over the previous six hours.

Recent Activity. Provides a list of managed devices, split by customer, and filtering activity within the most recent summarized hour. Displays hourly activity on a device over the previous few days.

Historical Activity Report. Provides lists of managed devices, split by customer, and focuses on those devices that are filtering the highest proportion of their traffic due to Rate Limit Objects. Ranks devices by percentage of filtered traffic, showing where device utilization is beyond the allowed service level.

Inventory. Provides a list of every interface on the network and its configured Rate Limit Objects. Use this list to examine customer configurations or to compare individual interfaces on different devices.

Ways to Customize IP Access Reports

You can change the contents of a report by applying group filters and by editing parameters, tables, and graphs. In general, if you apply a group filter, your goal is to change how the entire package appears to a subset of users, and this subset of users is usually the people affiliated with one of your customers or a division within your organization. If you edit a parameter, table, or graph, you are making a temporary change to a report. Anyone can make these temporary changes.

Group Filters

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

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

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

Report Parameters

When you edit a parameter, you are applying a constraint to the report with the intention of eliminating data you do not want to see. For example, if you edit the Customer Name parameter, data for all customers except the customer you typed in the Customer Name field will drop from the report; similarly, if you edit the Source Location, data for all locations except the location you typed in the Source Location field will drop from the report.

Constraining the contents of a report by editing parameters is completely optional and you may apply multiple constraints at once. The IP Access Rate Reporting has the following editable parameters:

- Customer Name
- Customer ID

- Device Name
- Interface Name
- Admin Status
- Location Name

To edit parameters, click the **Edit Parameters** icon at the bottom right-hand corner of the report. When the **Edit Parameters** window opens, type the constraint in the appropriate field, then click **Submit**.

Tables and Graphs

In addition to modifying an entire report by editing parameters, you can modify individual tables and graphs within a report. To do this, click the **Edit Table** and **Edit Graph** icons, or right-click the object if you are using the Report Viewer application. For details, see [Chapter 5, Editing Tables and Graphs](#).

Integration with NNM

The threshold-oriented reports in IP Access Rate Reporting (in practice this means the Near Real Time report) can be launched from NNM in response to an alarm. If you want to implement this feature, you must install the Integration Module. The Integration Module synchronizes devices, managed interfaces, and unmanaged interfaces between NNM and OVPI and modifies various menu options on NNM, making it possible for the NNM operator to perform context-based report launching.

In addition to installing the integration package on the NNM server, you must install the Thresholds module and the Thresholds sub-package that comes with IP Access Rate Reporting report pack on the OVPI server. The Thresholds Module monitors the database for threshold breaches, while the thresholds sub-package responds to a threshold breach by taking one of several possible actions. The default action is to send a threshold trap to the NNM server.

The thresholds sub-package that comes with IP Access Rate Reporting report pack responds to a packet drop ratio threshold. When the threshold is breached, the sub-package sends a threshold trap. The value for package drop ratio is inherited from the Interface Reporting Report Pack.

For more information about the Thresholds Module, refer to the *Thresholds Module User Guide*. For more information about the integration package, refer to *Network Node Manager/Performance Insight Integration Module User Guide*.

Sources for Additional Information

Release notes for IP Access Rate Reporting report pack can be found in the following document:

- *IP Access Rate Reporting Release Statement 3.0*

OVPI can also report traffic volume by IP precedence level. For more information about these reports, refer to the following documents:

- *IP QoS Statistics Report Pack User Guide 3.0*
- *IP QoS Statistics Report Pack Release Statement 3.0*

The following documents are good sources for information about Performance Insight, or OVPI, the platform for HP OpenView reporting solutions:

- *OpenView Performance Insight 5.0 Administration Guide*
- *OpenView Performance Insight 5.0 Guide to Building and Viewing Reports*
- *OpenView Performance Insight 5.0 Installation Guide*

Manuals for OVPI and manuals for the reporting solutions that run on OVPI are posted to the following web site:

<http://support.openview.hp.com>

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

Every title listed under **Reporting and Network Solutions** indicates the manual's date of publication. Since updated user guides are posted to this site on a regular basis, you should check this site for updates before using an older PDF that may not longer be current.

The Package Installation

This chapter covers the following topics:

- Guidelines for a Smooth Installation
- Installing IP Access Rate Reporting 3.0
- Options for Viewing Reports
- Package Removal

Guidelines for a Smooth Installation

The RNS 5.0 CD contains components for NNM and OVPI. When you select OVPI report packs for installation, the install script on the CD will automatically extract every OVPI package from the CD and copy them to the Packages directory on your system. When the extract and copy process is done, the install script will prompt you to run an install wizard known as Package Manager. Before getting to that step, become familiar with the following guidelines.

Prerequisites for Installation

Version 3.0 of IP Access Rate Reporting report pack has a combination of core-product requirements and package-level requirements. The core product requirements are as follows:

- OVPI 5.0
- Any available OVPI 5.0 Service Pack

The package-level prerequisites are as follows:

- Common Property Tables 3.0
- Interface Reporting 4.0
- ifEntry Discovery Datapipe 2.0
- Interface Reporting ifEntry Datapipe 2.0

You will find information about each Service Pack, including installation instructions, in the release notes for the Service Pack.

Distributed Environments

If you are running IP Access Rate Reporting report pack as a distributed system, the central server, every satellite server, and every remote poller must be running OVPI 5.0 with available Service Packs.

Upgrading Common Property Tables

If you are running an older version of Common Property Tables, you must upgrade it. Installing this particular upgrade package is no different from installing other upgrade package; however, keep in mind that you cannot install the upgrade for Common Property Tables *and* other packages at the same time. Finish the upgrade for Common Property Tables first, then run the install wizard a second time to install the other packages.

Integration with NNM: Threshold Alarms

If you have already integrated OVPI with NNM, you have the option of launching IP Access Rate Reporting from NNM in response to threshold breaches spotted by OVPI. To take advantage of this feature, install the thresholds sub-package, `IPAccessRate_Reporting_Thresholds`. The sub-package provides default threshold settings. The thresholds sub-package cannot operate without the Threshold and Event Generation Module (also known as the Thresholds Module). If you select the thresholds sub-package for installation, the install wizard will select the Thresholds Module and install it for you.

If you are running the previous version of the Thresholds Module, upgrading to the latest release is optional. For more information about the latest enhancements to the Thresholds Module, refer to the *Thresholds Module 5.0 User Guide*.

Installing IP Access Rate Reporting 3.0

Perform the following tasks to install IP Access Rate Reporting 3.0:

- Task 1: Extract packages from the RNS 5.0 CD
- Task 2: If necessary, upgrade Common Property Tables 3.0
- Task 3: Install the following packages:
 - *IP_Access Rate 3.0*
 - *Cisco IPAccessRate Datapipe 3.0*

If desired, install the optional sub-packages when you install the report pack.

Task 1: Extract packages from the RNS 5.0 CD

Follow these steps to extract OVPI packages from the RNS 5.0 CD to the Packages directory on your system:

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

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

UNIX: As root, do one of the following:

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

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

- 3 Insert the RNS 5.0 CD. On Windows, a Main Menu displays automatically. On UNIX, the CD may or may not mount automatically; if it 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 install wizard opens.

When the copy to the Packages directory is complete, you have the option of navigating to the Packages directory to see the results. The Packages directory contains separate folders for IP Access Rate Reporting report pack and the Cisco IP AccessRate Datapipe. The following folders appear under IP Access Rate Reporting report pack:

- *IPAccessRate_Reporting.ap*
- *IPAccessRate_Reporting_Demo.ap*
- *IPAccessRate_Reporting_Thresholds.ap*

The following folder appears under Cisco IPAccessRate Datapipe:

- *Cisco_IPAccessRate_Datapipe.ap*

Installing the demo package is optional. You may install the demo package by itself, with no other packages, or you may install the demo package along with the other packages. Reports in the demo package are interactive, tables are linked to graphs, and you may experiment with editing parameters, tables, and graphs.

Task 2: Upgrade Common Property Tables

IP Access Rate Reporting report pack 3.0 requires Common Property Tables 3.0. If you have not already upgraded to Common Property Tables 3.0, do this now, *before* moving on to Task 3. If you need help with the upgrade, refer to the *Common Property Tables 3.0 User Guide*.

Task 3: Install IP Access Rate Reporting 3.0, Datapipe and Optional Sub-Packages

Follow these steps to install IP Access Rate Reporting 3.0:

- 1 Log in to the system. On UNIX systems log in as trendadm.
- 2 If your system is distributed, disable trendcopy.
- 3 Start **Package Manager**. The Package Manager install wizard opens.
- 4 Click **Next**. The Package Location window opens.
- 5 Click the **Install** radio button.
- 6 Approve the default installation directory or use the browse feature to select a different directory if necessary.
- 7 Click **Next**. The Report Deployment window opens.
- 8 Accept the default for Deploy Reports; also accept the defaults for application server name and port.
- 9 Type your user name and password for the OVPI Application Server.
- 10 Click **Next**. The Package Selection window opens.

- 11 Click the check box next to the following packages:
IPAccessRate_Reporting
IPAccessRate_Reporting_Thresholds
Cisco_IPAccessRate_Datapipe
- 12 Click **Next**. The Type Discover window opens. Keep the default and click **Next**.
- 13 The Selection Summary window opens; verify that the contents of this window are correct.
- 14 Click **Install** to begin the installation process. The Install Progress window opens. When installation finishes, an install complete message appears.
- 15 Click **Done** to return to the Management Console.
- 16 Restart OVPI timer.

Options for Viewing Reports

Once IP Access Rate Reporting report pack is installed, there are multiple ways to view reports. The method available to you depends on how OVPI was installed. If the client component of OVPI is installed on your system, you have access to the Report Viewer and Report Builder, and Management Console applications. If the client component was not installed on your system, the Web Access Server is the only way you can view reports. For more information about the client components, refer to the *OVPI Installation Guide*.

The first report to populate with data is the Near Real Time report. You will see data in this report moments after the first data collection. Because it begins with an analysis of yesterday's performance, the Historical report will need at least one full day's worth of data before results are visible. The Inventory report inherits its information about interfaces from the IP Access Rate Reporting report pack. This process is automatic.

Package Removal

If you remove a report pack, the associated tables and all the data in those tables will be deleted. If you want to preserve the data in those tables, archive the data before removing the package. Follow these steps to uninstall the IP Access Rate Reporting report pack and Cisco IPAccessRate Datapipe.

- 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 Start **Package Manager**. The Package Manager window opens.
- 4 Click **Next**. The Package Location window opens.
- 5 Click the **Uninstall** radio button.

- 6 Keep the defaults and click **Next**. The Package Selection window opens.
- 7 Click the check box next to the following packages:
 - IPAccessRate_Reporting*
 - IPAccessRate_Reporting_Thresholds* (if installed)
 - Cisco_IPAccessRate_Datapipe_Demo* (if installed)
 - Cisco_IPAccessRate_Datapipe*
- 8 Click **Next**. The Selection Summary window opens.
- 9 Click **Uninstall**. The Progress window opens. When the removal finishes, a removal complete message appears.
- 10 Click **Done** to return to the Management Console.
- 11 Restart OVPI timer.

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

UNIX: As root, do one of the following:

HP-UX: **sh /sbin/ovpi_timer start**

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

Distributed Systems

This chapter explains how to configure a central server to pull data from satellite servers. This chapter covers the following topics:

- [Configuring the Central Server](#)
- [Configuring a Satellite Server](#)

Configuring the Central Server

This task involves the following steps:

- Task 1: Set up connections with satellite server databases
- Task 2: Suppress hourly processing on the central server
- Task 3: Configure trendcopy pull commands for hourly data
- Task 4: Configure trendcopy pull commands for rate data (optional)

In addition to performing these tasks, it is important to verify that the system clock on the central server is synchronized with system clocks on the satellite servers.

 The following steps apply to new installations only.

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 host name 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: Suppress hourly processing on the central server

- 1 Modify the hourly process file; open the following file:
`$DPIPE_HOME/scripts/IPAR_Hourly_Process.pro`
- 2 Comment out block1 by adding the comment sign (“#”) before the word **begin** and the word **end**.

Task 3: Configure trendcopy pull commands for hourly data

- 1 Configure trendcopy pull commands for each satellite server; open the following file:
`$DPIPE_HOME/scripts/IPAR_Hourly_Process.pro`
- 2 Modify block2 as follows:
 - Remove “#” before the word **begin** and before the word **end**
 - Replace *SATELLITE_SERVER_1_DATABASE* with the satellite server name
 - Replace *THIS_MACHINE_DATABASE* with the central server name
- 3 If there is more than one satellite server, create a copy of block2 for each satellite server and repeat step 2 for each copy of block2.

Task 4: Configure trendcopy pull commands for rate data (optional)

If you want to view the Near Real Time report from the central server, you need to copy rate data from each satellite server to the central server. To do that, configure trendcopy pull commands from the central server for each satellite server.

- 1 Open the following file:
`$DPIPE_HOME/scripts/IPAR_Hourly_Process.pro`
- 2 Modify block3 as follows:
 - Remove “#” before the word **begin** and before the word **end**
 - Replace the *SATELLITE_SERVER_1_DATABASE* with the satellite server name
 - Replace *THIS_MACHINE_DATABASE* with the central server name
- 3 If there is more than one satellite server, create one copy of block3 for each satellite server and repeat step 2 for each copy of block3.



Pulling rate data from satellite servers increases traffic between satellite servers and the central server and increases the processing load on the central server.

Configuring a Satellite Server

Follow these steps to configure a satellite server.

- 1 Switch off daily aggregations by commenting out the lines referencing `IPAR_DMF_Process.pro` in the `$DPIPE_HOME/lib/trendtimer.sched` file.

- 2 Modify the `IPAR_Hourly_Process.pro trendtimer` entry in the `$DPIPE_HOME/lib/trendtimer.sched` file. By default, this process starts at 40 minutes after the hour. To make sure the satellite server completes hourly summarizations before the central server begins hourly summarizations, change the start time from `1:00+40` to `1:00+25`.
- 3 Configure polling policies for the IP Access Rate Reporting Datapipe, making sure that each Interface is polled by one satellite server only.
- 4 Make sure that all system clocks are synchronized.

Step 4 is extremely important. In distributed environments, linked processes must execute in exact sequences across independent machines.

The Reports

The chapter provides brief description and screen shots for all the reports. This chapter covers the following topics:

- [Near Real Time Interface Activity](#)
- [Recent IP Access Rate Activity](#)
- [Historical IP Access Rate Activity](#)
- [Inventory Report](#)

The IP Access Rate Report Pack offers four reports to identify the devices in the network that have Rate Limit Objects (RLO) assigned to their interfaces and the activity related to those RLOs.


Some reports populate with data sooner than others. The first report to populate with data is the Near Real Time report. Data begins to appear in this report after three polling cycles. Other reports, including any report that begins with an analysis of yesterday's performance, will need at least one full day's worth of data before any results are viewable. Until data has been collected for several days, daily charts will be sparsely populated; until data has been collected for several months, monthly charts will be sparsely populated.

Near Real Time Interface Activity

The **Near Real Time Interface Activity** report highlights RLO interfaces with a high proportion of filtered traffic. The selection table sorts by filtered/switched ratio, highest to lowest. If you see an interface with a high ratio for filtered traffic, you can drill down on the interface, and look more closely at the rate limiting rules that apply to the interface. This indicates the interfaces most likely to be dropping traffic if the RLOs are configured to drop traffic exceeding the rate limits. The tabbed graphs beneath provide visual information relating to ratio of traffic filtered to all traffic (in bytes), traffic filtered versus traffic switched, the current burst traffic rate, and also the probability that traffic will be passed without any action. Two graphs below the rule information display the previous six hours of rate data for (1) switched and filtered traffic, and (2) burst rate. The graph at the bottom of the report monitors utilization, errors, and discards over the previous six hours.

IP Access Rate Reporting

Near Real Time Interface Activity




The IP Access Rate Near Real Time report provides a detailed look at the performance of individual IP Access Rate Limit Objects and the interfaces on which they reside, up to the last poll cycle. Select an interface from the list to see filtered and switched metrics per Rate Limit object along with utilization, discards and error counts for the parent interface over the previous 6 hours.

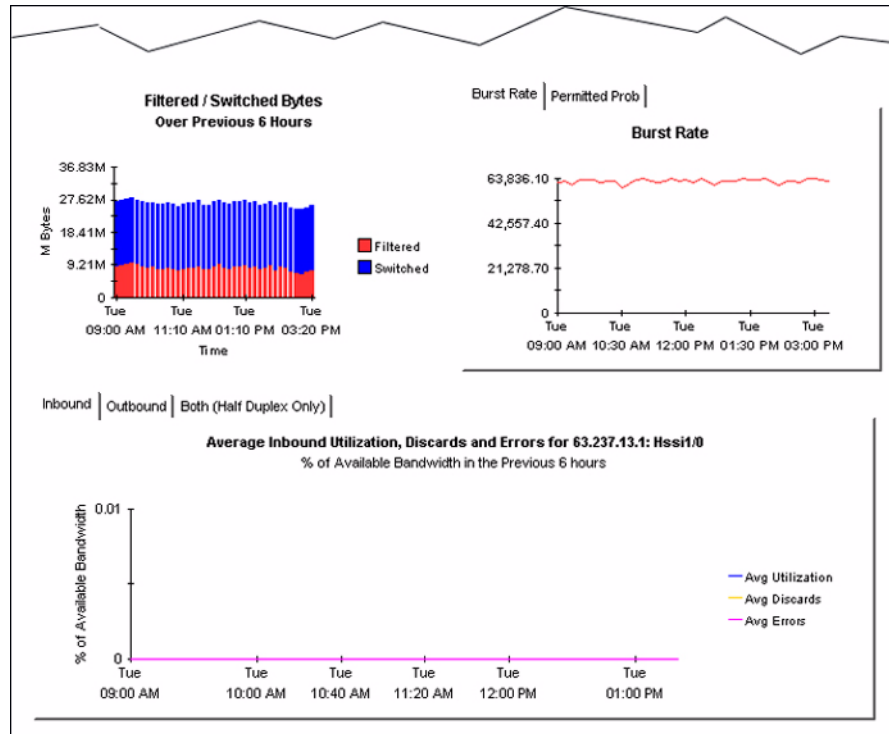
Rate Limiting Interfaces
Active Interfaces With Rate Limits Over Previous 6 Hours

Device	Interface	ifSpeed	Admin Status	Customer	Filtered / Switched	Filtered %
63.237.13.1	Hssi1/0	In: 44.2 Mb/s Out: 44.2 Mb/s	Up	Customer 2	305.9 Mb : 677.7 Mb	31
64.214.129.1	Serial5/0/0	In: 44.2 Mb/s Out: 44.2 Mb/s	Up	Customer Unassigned	2.3 Mb : 50.5 Mb	4
64.214.130.1	Serial5/0/0	In: 44.2 Mb/s Out: 44.2 Mb/s	Up	Customer Unassigned	2.3 Mb : 50.5 Mb	4
63.238.176.1	Serial1/0:19	In: 512.0 Kb/s Out: 512.0 Kb/s	Up	Customer Unassigned	11.4 Mb : 376.0 Mb	3
65.211.170.1	Ethernet0/1	10 Mb/s	Up	Customer Unassigned	1.6 Mb : 69.0 Mb	2
65.171.113.1	FastEthernet0/0	100 Mb/s	Up	Customer Unassigned	441.0 Kb : 31.4 Mb	1
63.238.176.1	Serial1/0:5	In: 512.0 Kb/s Out: 512.0 Kb/s	Up	Customer Unassigned	3.0 Kb : 3.3 Mb	0
66.205.94.1	FastEthernet5/0/0	100 Mb/s	Up	Customer 4	0 bytes : 206.5 Kb	0
63.238.176.1	Serial1/0:1	In: 256.0 Kb/s Out: 256.0 Kb/s	Up	Customer Unassigned	0 bytes : 0 bytes	0
65.211.170.1	Serial1/0:1	In: 4.528 Mb/s Out: 4.528 Mb/s	Up	Customer Unassigned	0 bytes : 0 bytes	0

Rate Limit Objects on '63.237.13.1: Hssi1/0' Over Previous 6 Hours

Dir	RateIndex	Conform Act.	Exceed Act.	Limit	Rate	ExtLimit	Type	Accldx	Filtered / Switched	Filter %
Output	2	Continue	drop	64,000	256,000	64,000	All	-	305.9 Mb : 677.7 Mb	31.101





Recent IP Access Rate Activity

The **Recent IP Access Rate Activity** report provides a list of managed devices, split by customer, and filtering activity within the most recent summarized hour. Displays hourly activity on a device over the previous few days.

IP Access Rate Reporting

Recent IP Access Rate Activity

The Recent IP Access Rate Devices Activity provides lists of managed devices, split by customer, and focuses on filtering activity within the most recent summarized hour. An 'X' to the left of a device name indicates that a summary has not been performed recently and it should be investigated. Use this report to look at hourly activity on a device over the previous few days. Use the lower selection lists to narrow in on exactly which Rate Limit is dropping the traffic.

Customer	Id	Device Rate Limit Figures For Most Recent Summarized Hour			
Device	Location	Volume		Filtered %	
		Filtered	Switched		
Customer Unassigned	-2				
Hewlett Packard	4				
Huge Corp	2				
65.171.113.1	Location Unassigned	8.1 Mb	88.9 Mb	8.375	▲
66.205.04.1	Location Unassigned	8.4 Mb	99.6 Mb	7.771	
64.214.130.1	Location Unassigned	137.1 Kb	2.4 Mb	5.282	
64.214.129.1	Location Unassigned	137.1 Kb	2.4 Mb	5.275	
65.194.90.1	Location Unassigned	0 bytes	38.5 Kb	0.000	
65.194.91.1	Location Unassigned	0 bytes	38.5 Kb	0.000	
63.238.176.1	Location Unassigned	0 bytes	630.6 Kb	0.000	
65.207.187.1	Location Unassigned	0 bytes	38.5 Kb	0.000	
65.211.170.1	Location Unassigned	0 bytes	3.6 Mb	0.000	
65.212.180.1	Location Unassigned	0 bytes	0 bytes	0.000	
65.216.159.1	Location Unassigned	0 bytes	38.5 Kb	0.000	▼

Sys Contact	Sys Name	Sys Location	Sys Descr
N/A	ICS-327Main	N/A	Cisco Internetwork O ...

Rate Limiting Interface Data

For Most Recent Summarized Hour

Interface	ifSpeed	Admin Status	Protocol	Filtered / Switched	Filtered %
FastEthernet0/0	100 Mb/s	Up	ethernet-csm.acd	8.1 Mb : 88.9 Mb	8.375

Rate Limit Objects on '65.171.113.1: FastEthernet0/0'

For Most Recent Summarized Hour

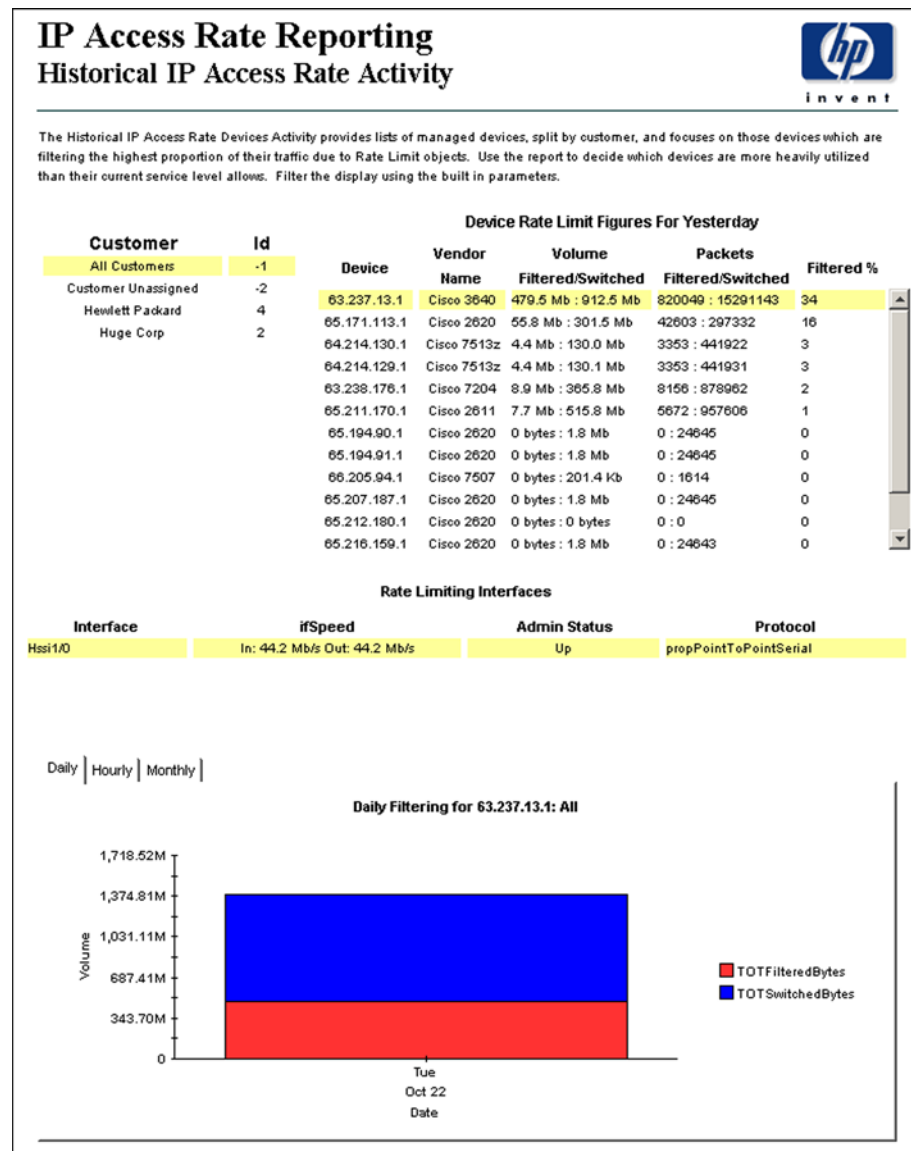
Dir	RateIndex	Conform Act.	Exceed Act.	Limit	Rate	ExtLimit	Type	Accldx	Filtered / Switched	Filter %
Output	1	Transmit	Drop	8,000	128,000	8,000	All	-	4.3 Mb : 43.5 Mb	9.049
Input	1	Transmit	Drop	8,000	128,000	8,000	All	-	3.8 Mb : 45.3 Mb	7.719

Devices
Interfaces
Rate Limits

Hourly Filtering for 65.171.113.1: -2

Historical IP Access Rate Activity

The **Historical IP Access Rate Activity** report analyzes yesterday's filtering activity and sorts devices by filtering from highest to lowest. The list of devices indicates totals for switched packages, filtered packets, switched bytes, and filtered bytes. Drill down on a selected device to display a list of rate limited interfaces. Use this report to determine which devices are exceeding rate limits and which customers may be transmitting more data than their service level can accommodate. Use the hourly chart at the bottom of the report to find out exactly when filtering took place. Compare the hourly chart to the daily and monthly charts to find out whether yesterday's filtering activity was an isolated incident or part of a longer-term trend.




Inventory Report

The **Inventory** report provides a list of all the interfaces in the network and the rate limit objects configured for each interface. Use this report to examine customer configurations or to compare individual interfaces on different devices. The details about interfaces and rate limit objects are updated after every poll cycle. The list of customers is refreshed every evening.

IP Access Rate Reporting

IP Access Rate Inventory



The IP Access Rate Inventory report provides a list of all interfaces on the network with Rate Limiting Objects configured. Use the report to examine the configurations for entire customers or to compare individual interfaces on different devices. The interface and Rate Limit object details are updated after every poll cycle. The Customer list is refreshed every evening.

Customer	Customer Id
Customer 2	2
Customer 4	4
Customer Unassigned	-2

Rate Limiting Interfaces

Device	Interface	ifSpeed	Admin Status	Protocol
63.237.13.1	Hssi1/0	In: 44.2 Mb/s Out: 44.2 Mb/s	Up	propPointToPointSerial

Rate Limit Objects on '63.237.13.1: Hssi1/0'

Dir	RateIndex	Conform Act.	Exceed Act.	Limit	Rate	ExtLimit	Type	AccIdx
Output	2	Continue	Drop	64,000	256,000	64,000	All	-

Editing Tables and Graphs

This chapter describes the different ways to view the tables or graphs. This chapter covers the following topics:

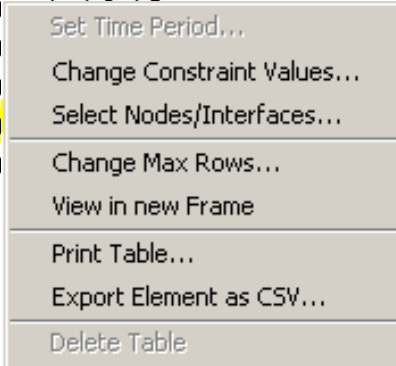
- [View Options for Tables](#)
- [View Options for Graphs](#)

While the default view is usually adequate, you can easily change to a different view. If you are using the Report Viewer application, change the default view by right-clicking the object and selecting a different view. If you are looking at a report using the Web Access Server, click the **Edit Table** or **Edit Graph** icons.

View Options for Tables

Right-clicking a table, or selecting **Edit Table**, opens a list of table view options.

Device	Interface	F/H	Customer	Descr.	Baseline Avg.
24.13.17.1	5	F	Concert	Cable5/0	In:2 Out:5
24.13.17.1	5	F	Concert	Cable5/0	In:2 Out:5
24.13.17.1	5	F	Concert	Cable5/0	In:3 Out:5
24.13.17.1	5	F	Concert	Cable5/0	In:2 Out:5
24.13.17.1	5	F	Concert	Cable5/0	In:2 Out:4
24.13.17.1	6	F	Concert	Cable6/0	
24.13.17.1	5	F	Concert	Cable5/0	
24.13.17.1	6	F	Concert	Cable6/0	
24.13.17.1	6	F	Concert	Cable6/0	
24.13.17.1	6	F	Concert	Cable6/0	



A context menu is displayed over the table, listing the following 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.

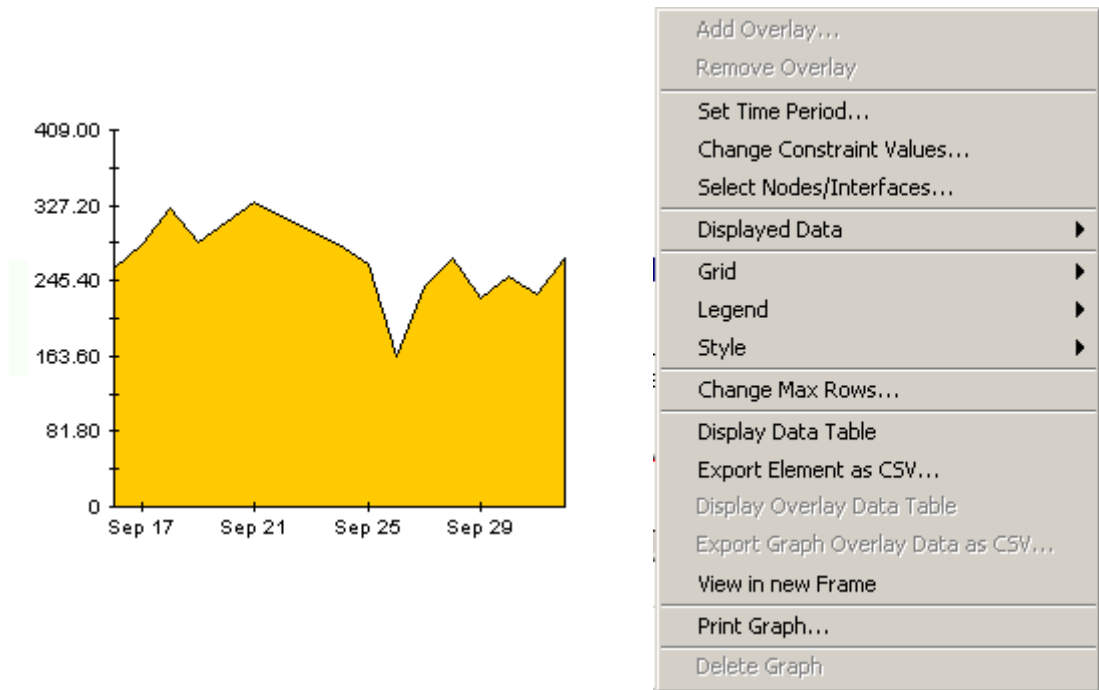
Change Max Rows increases or decreases the number of rows in a table. The default is 50. If you expand the default, the table may take more time to open. If you are trending a large network, using the default ensures that the table opens as quickly as possible.

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	
Input	5	0	0	Tue Oct 29 06:45 AM	
Input	6	0	0	Tue Oct 29 06:45 AM	
Input	7	0	0	Tue Oct 29 06:45 AM	
Input	0	97,539	648	Tue Oct 29 06:30 AM	
Input	1	0	0	Tue Oct 29 06:30 AM	
Input	2	0	0	Tue Oct 29 06:30 AM	
Input	3	0	0	Tue Oct 29 06:30 AM	
Input	4	0	0	Tue Oct 29 06:30 AM	
Input	5	0	0	Tue Oct 29 06:30 AM	
Input	6	120	1	Tue Oct 29 06:30 AM	
Input	7	0	0	Tue Oct 29 06:30 AM	
Input	0	90,744	564	Tue Oct 29 06:15 AM	
Input	1	0	0	Tue Oct 29 06:15 AM	
Input	2	0	0	Tue Oct 29 06:15 AM	
Input	3	0	0	Tue Oct 29 06:15 AM	
Input	4	0	0	Tue Oct 29 06:15 AM	
Input	5	0	0	Tue Oct 29 06:15 AM	
Input	6	0	0	Tue Oct 29 06:15 AM	
Input	7	0	0	Tue Oct 29 06:15 AM	
Input	0	103,775	656	Tue Oct 29 06:00 AM	
Input	1	0	0	Tue Oct 29 06:00 AM	
Input	2	0	0	Tue Oct 29 06:00 AM	
Input	3	0	0	Tue Oct 29 06:00 AM	
Input	4	0	0	Tue Oct 29 06:00 AM	
Input	5	0	0	Tue Oct 29 06:00 AM	
Input	6	0	0	Tue Oct 29 06:00 AM	
Input	7	0	0	Tue Oct 29 06:00 AM	

View Options for Graphs

Right-click any graph to open a list of view options.



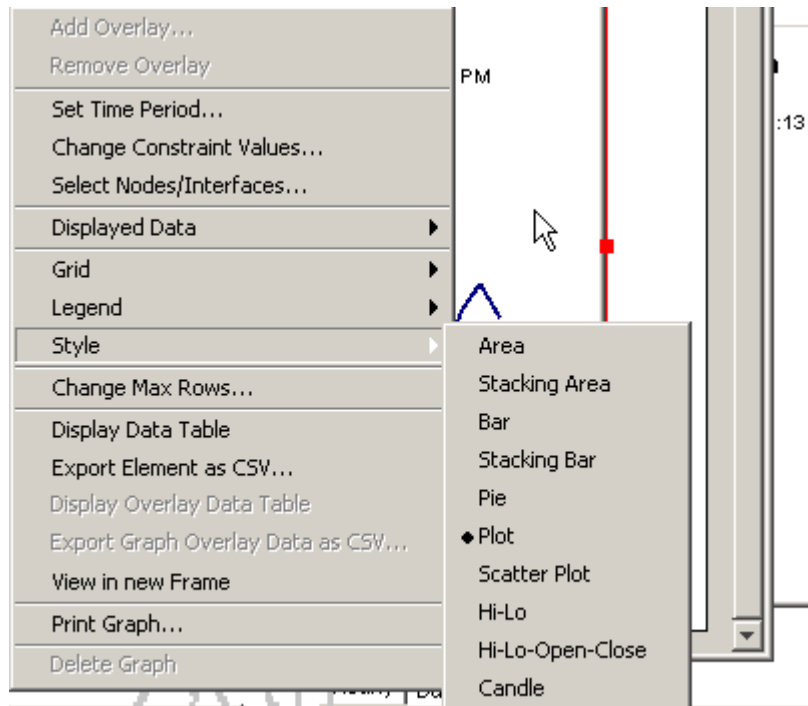
The following table provides a few details about each option.

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.

Option	Function
View in New Frame	Opens graph in a Graph Viewer window.
Print Graph	Same as the table option shown above.

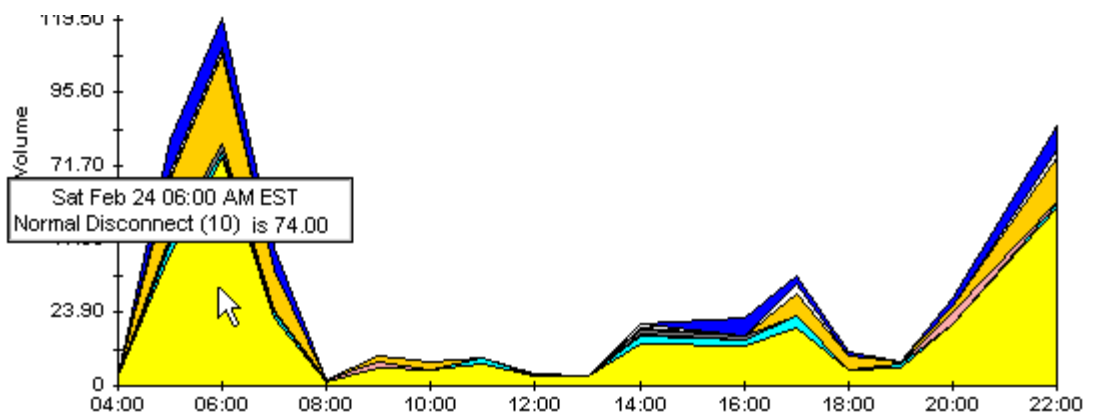
Style Options

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



Style > Area

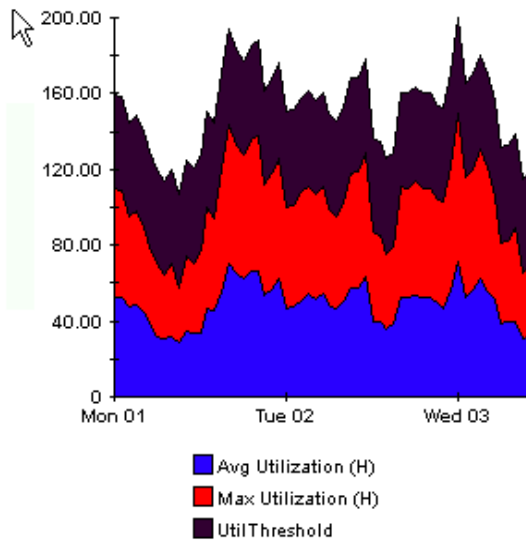
The plot or bar chart changes to an area graph. While relative values and total values are easy to view in this format, absolute values for smaller data types may be hard to see. Click anywhere within a band of color to display the exact value for that location



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.

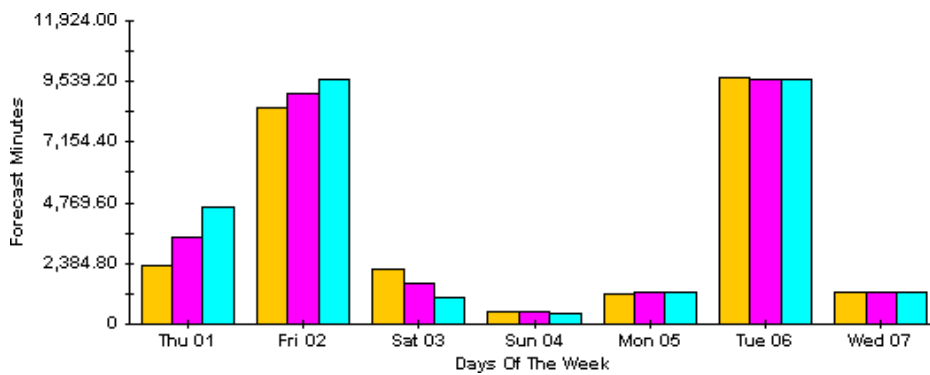
Style > Stacking Area

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



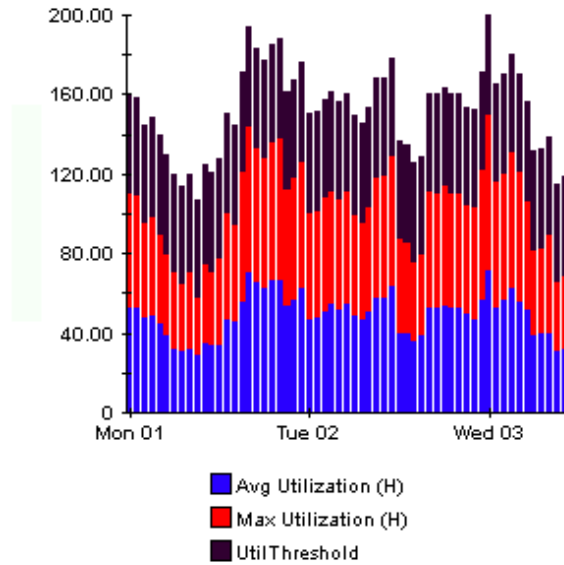
Style > Bar

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.



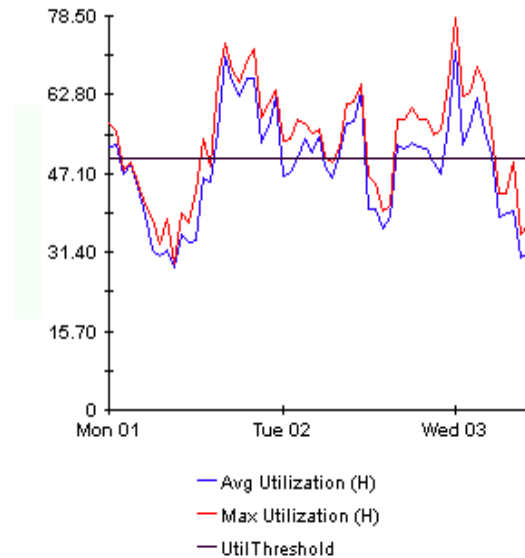
Style > Stacking Bar

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.



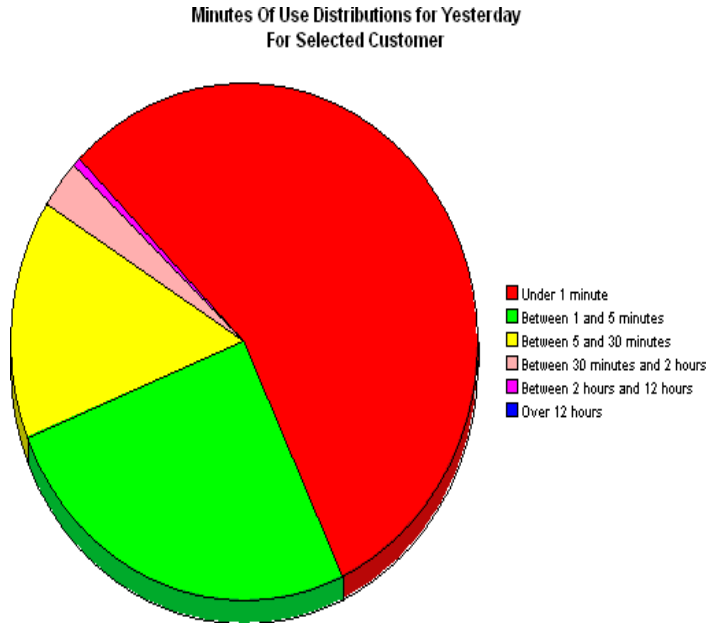
Style > Plot

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.

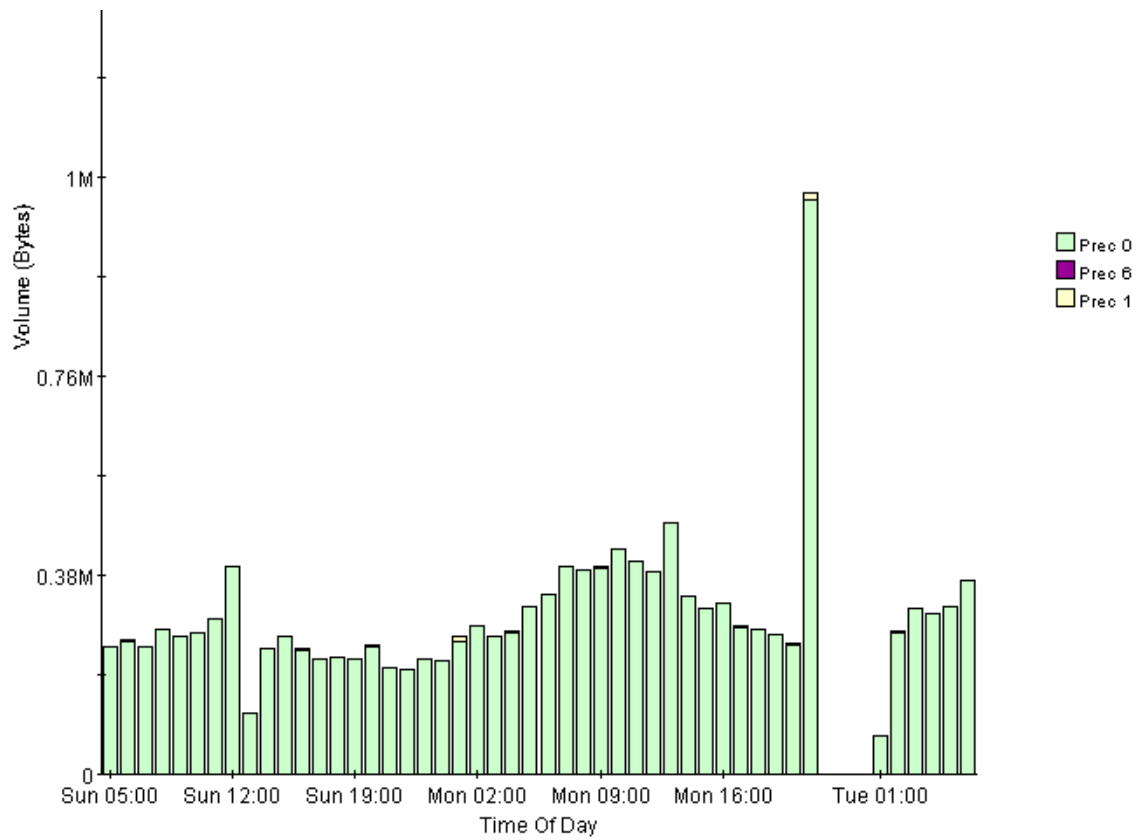
Display Data Table

This option changes a graph into a spreadsheet.

X Axis	Average
Tue Feb 19 ...	0.809
Tue Feb 19 ...	0.621
Tue Feb 19 ...	1.026
Tue Feb 19 ...	0.362
Tue Feb 19 ...	1.171
Tue Feb 19 ...	1.051
Tue Feb 19 ...	0.284
Tue Feb 19 ...	0.826
Tue Feb 19 ...	1.483
Tue Feb 19 ...	0.967
Tue Feb 19 ...	1.471
Tue Feb 19 ...	1.308
Tue Feb 19 ...	1.123
Tue Feb 19 ...	0.93
Tue Feb 19 ...	1.497
Tue Feb 19 ...	0.806
Tue Feb 19 ...	0.725

View in New Frame

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



acldx

Access List Number. The index to the access list if Rate Limit Type is either quickAcc or standardAcc.

conform act

Conform Action, the action taken for those packets that have conformed with the rate limit.

exceed act

Exceed Action, the action taken for those packets that have exceeded the rate limit.

ext limit

Extended limit, the excess burst size in bytes. The amount of traffic, in bytes, in excess of the burst limit that may be permitted by the rate limit rule.

filtered

A byte or packet that exceeded the rate limit and was dropped at the interface.

filtered/switched ratio

A low ratio indicates that few packets are being dropped, a high ration indicates that many packets are being dropped. The end user wants to keep the ratio low. The service provider wants to prevent congestion on the backbone to a minimum. A high ratio could indicate that a customer needs a different service level.

limit

Traffic above the CIR that is instantly permitted by the rate limit rule. Synonymous with normal burst size measured in bytes.

Near Real Time (NRT)

A report containing a rolling average for performance over the last six hours. The most recent data in this report was collected by the most recent poll, which probably took place within the last 15 minutes.

rate data

This is an OVPI term. Rate data is data as it was collected; the actual samples, without summarizing the data by hour. Rate data appears in Near Real Time reports.

rate index

An arbitrary index for rate limit objects. It will increase as the list is traversed, but may skip.

rate

Transmission rate or sustained rate permitted by the rate limit rule.

rate limit object

A rule or regulator applied to traffic at the interface level, moving in a given direction. Rate limiters are defined by a series of settings and actions. Typically, lower priority traffic will pass by multiple limiters, while higher priority traffic will be subject to one limiter only.

switched

A byte or packet that was transmitted normally and was not dropped.

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