

HP OpenView Performance Insight

Report Pack for RMON Ethernet Statistics User Guide

Software Version: 3.0

Reporting and Network Solutions



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Overview

This chapter explains the reports and ways to customize the reports. This chapter covers the following topics:

- [Remote Monitoring](#)
- [OVPI and Ethernet Statistics](#)
- [Enhancements in Version 3.0](#)
- [Ways to Customize Reports](#)
- [Integration with NNM](#)
- [Sources for Additional Information](#)

Remote Monitoring

The Remote Monitoring (RMON) specification defines a set of statistics and functions that can be exchanged between RMON-compliant console managers and network probes. RMON was defined by the user community with help from the Internet Engineering Task Force (IETF). A draft specification became a proposed standard in 1992 as RFC1271 (for Ethernet). RMON became a draft standard in 1995 as RFC1757, obsoleting RFC1271.

Ethernet Statistics, one of the RMON groups, contains data about ethernet traffic counters. RMON Ethernet Statistics gives a robust set of data — richer than what is available from a generic MIB-II report set — that can be used to detect many operational conditions and problems. This data is of special interest to network administrators who need to focus on network utilization, packet types, fault diagnosis, and broadcast storm problems, planning, and performance tuning.

OVPI and Ethernet Statistics

The RMON Ethernet Statistics Report Pack belongs to an expanding collection of reporting solutions from HP OpenView. The RMON Ethernet Statistics Report Pack supplements the Interface Reporting Report Pack (generic MIB-II reporting), providing additional Ethernet specific information, where appropriate, about interfaces. You can use RMON Ethernet Statistics to analyze the consumption of network resources on the LAN segments, types of traffic running on a segment, the network traffic load, and the utilization level of a segment.

You can use this information to troubleshoot broadcast and multicast storm. You can also generate the Ethernet Statistics at any polling interval to quickly determine the health of a segment.

The RMON Ethernet Statistics report pack uses the RMON Ethernet Statistics Datapipe to poll the data. The datapipe enables OVPI to discover the Ethernet Statistics enabled devices in RMON-compatible probes and automatically poll the probes for statistics records. The datapipe polls the `RFC1271.mib` to collect the following statistics:

- BroadcastPkts
- MulticastPkts
- Packet Size Distribution
- Error Type (CRCAlignErrors, UndersizePkts, OversizePkts, Fragments, Jabbers, Collisions)

The RMON Ethernet Statistics Report Pack includes the following reports:

- 1 **Near Real Time Broadcast Multicast** displays the volume of broadcast and multicast packets on a segment. The selection table has one entry for each interface and displays the data collected during the last six hours. The data includes the most recent poll cycle of broadcast type packets compared to multicast and unicast packets. The graphs show the details of the same during the previous six hours. Utilization is calculated using the provisioned `ifSpeed` for half duplex interfaces. The graphs show the details of the data during the previous 6 hours. Utilization is calculated using the provisioned `ifSpeed` for half duplex interfaces.
- 2 **Near Real Time Packet Size Distribution** illustrates the range of packet sizes traversing the Ethernet segment. The selection table also displays the data collected during the last six hours. The data includes the most recent poll cycle Utilization % and Error packet %. The graphs shows the same for the previous six hours.
- 3 **Near Real Time Errors** displays the error packets or the data collected during the last six hours. The data includes the most recent poll cycle and the graphs show the previous six hours. The % Error Packets is the percentage of all packets which were counted as having errors. Of the error packets, % Frag is the ratio which were fragmented - the same applies to % CRC Align, % Under, % Over and % Jabbers types.
- 4 **Historical Broadcast/Multicast** displays the volume of broadcast and multicast packets on a segment. The selection table has one entry for each interface and displays the data collected during the last six hours. The data includes the most recent poll cycle of broadcast type packets vs. multicast and unicast packets. The graph shows the details of the same for the previous days.
- 5 **Historical Packet Size Distribution** illustrates the range of packet sizes traversing the Ethernet segment. The selection table also shows the totals for yesterday for Utilization % and Error packet %. The graph shows the same for the previous days.
- 6 **Historical Error** provides details about yesterday's % Error Packets and the ratio of individual error types and displays hourly aggregations, and daily aggregations of Error type for the interfaces.
- 7 **Drop Events** displays the number of times packets were dropped because the RMON device could not keep up monitoring with the flow of traffic on the network. (This value reflects the number of times packets were dropped not the actual number of packets.)
- 8 **Inventory** displays all the RMON Ethernet Statistics enabled interfaces in your network. This report is refreshed after every poll cycle; the list of customers is updated once a day.

Enhancements in Version 3.0

RMON Ethernet Statistics Version 3.0 is designed for OVPI 5.0 and provides support for Oracle as well as Sybase database software.

Ways to Customize Reports

You can customize the reports in this package by applying group filters, by editing parameters, tables, and graphs, and by importing custom property data such as customers and locations. In general, if you apply a group filter, your goal is to change how the entire package appears to a subset of users, typically, the users affiliated with a customer or a division within your organization. If you edit a parameter, table, or graph, you are making a temporary change to the contents of one report.

Group Filters

If you intend to share RMON Ethernet Statistics with customers, or if you 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 3.0
- Creating a group account for all of the users affiliated with a particular customer
- Creating a group filter for the group account

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

Report Parameters

If you edit a parameter, you apply 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 RMON Ethernet Statistics Report Pack supports the following parameters:

- Customer Name
- Device
- Interface
- Protocol
- Location

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 and 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 simply right-click the object if you are using the Report Viewer application. For details about these edit options, see [Chapter 5, Editing Tables and Graphs](#).

Custom Property Information

All the property information that pertains to an interface (interface speed, customer, location, device name, and UtilThreshold) is automatically inherited from the Interface Reporting Report Pack. You can even create your own Property Import file. For details about Property Import file, see [Chapter 3, Package Configuration](#).

Integration with NNM

The threshold-oriented reports in this package 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 includes multiple packages of which, some get installed on the NNM server, and some get installed on the OVPI server. The integration module package synchronizes devices, as well as managed 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 module on the NNM server, you must install the Thresholds Module and the thresholds sub-package that comes with RMON Ethernet Statistics. The Thresholds Module monitors the database for threshold breaches.

The thresholds sub-package responds to a threshold breach by taking an action. The default action is to send a threshold trap to the NNM server.



The thresholds sub-package of RMON Ethernet Statistics use:

- **Broadcast/Multicast Threshold Ratio:** This is set using property import utility.
- **Utilization Threshold:** This is inherited from the Interface Reporting Report Pack.

When both the above values exceed the threshold, the sub-package sends a threshold trap.

For more information about the Thresholds Module, refer to the *Thresholds Module User Guide*. For more information about the integration module, refer to *Integrating Performance Insight with Network Node Manager*.

Sources for Additional Information

The following documents are related to this manual:

- *RMON Ethernet Statistics Report Pack 3.0 Release Statement*
- *Interface Reporting 4.0 User Guide*
- *Common Property Tables 2.2 User Guide*
- *Common Property Tables 3.0 User Guide*

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 reach the **Product Manuals Search** page. The user guides for OVPI are listed under **Performance Insight**. The user guides 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 explains in detail the steps involved in installing RMON Ethernet Statistics. This chapter covers the following topics:

- [Guidelines for a Smooth Installation](#)
- [Installing RMON Ethernet Statistics 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.s.

Software Prerequisites

Version 3.0 of RMON Ethernet Statistics Reporting 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.

Installing RMON Ethernet Statistics 3.0

Perform the following tasks to install RMON Ethernet Statistics 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:
 - *RMON_EthernetStatistics 3.0*
 - *RMON_EthernetStatistics 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 ***Jsetup*** 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 RMON Ethernet Statistics and the RMON_EthernetStatistics Datapipe. The following folders appear under RMON Ethernet Statistics:

- *RMON_EthernetStatistics.ap*
- *RMON_EthernetStatistics_Demo.ap*
- *RMON_EthernetStatistics_Thresholds.ap*

The following folder appears under RMON_EthernetStatistics Datapipe:

- *RMON_EthernetStatistics Datapipe.ap*

Task 2: Upgrade Common Property Tables

RMON Ethernet Statistics 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 RMON Ethernet Statistics 3.0, Datapipe and Optional Sub-Packages

Follow these steps to install RMON Ethernet Statistics 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 Report Deployment window opens.
- 5 Accept the default for Deploy Reports; also accept the defaults for application server name and port.
- 6 Type your user name and password for the OVPI Application Server.
- 7 Click **Next**. The Package Selection window opens.
- 8 Click the check box next to the following packages:
 - RMON_EthernetStatistics*
 - RMON_EthernetStatistics_Thresholds*
 - RMON_EthernetStatistics_Datapipe*
- 9 Click **Next**. The Type Discover window opens. Keep the default and click **Next**.
- 10 The Selection Summary window opens; verify that the contents of this window are correct.
- 11 Click **Install** to begin the installation process. The Install Progress window opens. When installation finishes, an install complete message appears.
- 12 Click **Done** to return to the Management Console.

Options for Viewing Reports

Before reports can be viewed using a web browser, they must be deployed. During the preceding installation step, you enabled the Deploy Reports option. As a result, RMON Ethernet Statistics reports are deployed and available for remote viewing.

The method of report viewing available to you depends on how OVPI was installed. If the client component is installed on your system, you have access to Report Viewer, Report Builder, and the Management Console. From the Management Console you have access to Object Manager. Use Object Manager to launch a report by selecting an object and clicking **Reports Specific to the Selected Objects**. If the client component was not installed on your system, your only option is to view reports remotely using the Web Access Server.

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

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 RMON Ethernet Statistics Reporting package and RMON_EthernetStatistics 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:

RMON_EthernetStatistics

RMON_EthernetStatistics_Thresholds (if installed)

RMON_EthernetStatistics_Demo (if installed)

RMON_EthernetStatistics_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`

Package Configuration

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

- [Configuring Distributed Systems](#)
- [Provisioning Threshold Values](#)
- [Using the Change Threshold Form](#)

Configuring Distributed Systems

If you intend to run the RMON Ethernet Statistics package in a distributed system you must configure all of the servers in the system. Before doing that task, verify that you have the right packages on the central server and the right packages on each satellite server. The following table makes clear the difference.

Central Server	Satellite Server
RMON Ethernet Statistics	RMON Ethernet Statistics
Thresholds Module	RMON_EthernetStatistics Datapipe
Common Property Tables	Common Property Tables
Optional Sub-Packages	

Typically, the central server does not poll. If you want the central server in your system to poll, then you should install the RMON_EthernetStatistics Datapipe on every server, the central server as well as each 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/EtherStats_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/EtherStats_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/EtherStats_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 *EtherStats_DMF_Process.pro* in the *\$DPIPE_HOME/lib/trendtimer.sched* file.
- 2 Modify the *EtherStats_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 RMON Ethernet Statistics 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.

Provisioning Threshold Values

The thresholds sub-package that comes with RMON Ethernet Statistics responds to the utilization ratio threshold and the broadcast/multicast threshold ratio. When the threshold is breached with both the values, the sub-package sends a threshold trap. The value for package utilization ratio is inherited from the Interface Reporting Report Pack. The broadcast/multicast threshold is defaulted to 50%. An easier way to change the default is to use Threshold Change form.

When an interface is discovered, various attributes associated with that interface (speed, protocol, half or full duplex) will be sourced from the network or from the Interface Reporting Report Pack. Once an interface and its attributes are discovered, the default technique for updating threshold attributes is to use the property data interface. For more information about node-level properties and interface-level properties, refer to the *Common Property Tables User Guide* and *Interface Reporting Report Pack User Guide*.

Updating Property Data

The property import utility is part of OVPI. Its purpose is to import property data into OVPI and export property data from OVPI. The file you import needs to adhere to a particular format; when OVPI exports property data, the file it produces is already in the proper format for you to modify and re-import.

You can create an import file by building it from scratch using a spreadsheet application, by exporting the required attributes from your own provisioning database, or by letting OVPI collect some property data on its own and then exporting what has been collected. Since building a property import file from scratch is not that easy, we recommend that you follow these steps:

- 1 Allow the system to discover a few devices on its own.
- 2 Export existing property data from OVPI by typing this command:

```
trend_proc -f RMON_EtherStats_exportdata.pro
```

- 3 Use the results as a starting point for creating your own modified property import file.
- 4 Store your modified file in the correct directory (where OVPI expects to find it) and import the file by typing this command:

```
trend_proc -f RMON_EtherStats_importdata.pro
```

OVPI is programmed to import property data once a day at 4.00 a.m., which is well before daily, monthly, and forecasting summaries are started. If the default source and destination directories have not be modified, the import command will import data from, and the export command will export data to, the following directory:

```
$DPIPE_HOME/data/PropertyData
```

The Property Import File

The following table describes the format of the Property Import file. If you are creating this file yourself, make sure that your file adheres to this format. The sequence of attributes left to right must follow this sequence of attributes top to bottom and your attributes must be delimited by tabs, not spaces. If you export this file from OVPI, the format will be correct.

Attribute	Type	Default	Description
Node name	char_string,64	N/A	Device name.
Interface name	char_string,188	N/A	Interface name.
BcastMcastThreshold	integer	50	Broadcast/ Multicast Threshold. The percentage of traffic of type Broadcast or Multicast.

Using the Change Threshold Form

RMON Ethernet Statistics 3.0 provides the Change Threshold form to modify properties and export existing property data without re-importing your changes. You can also use this form to change the RMON Ethernet Statistics Broadcast Multicast Thresholds.

Follow these steps to open the form and change the Broadcast Multicast Threshold value for the RMON Ethernet Statistics Interfaces:

- 1 Launch the Management Console (piadmin).
- 2 Click **Objects**, and do one of the following:
 - Navigate and select the interface you want to update.
 - Select a device to update all interfaces on that device.
- 3 The Change Bcast-Mcast Threshold forms will appear in the Object Specific window.
- 4 Double-click Change Bcast Mcast Threshold. The form appears.
- 5 Update the Bcast Mcast threshold as required.
- 6 Click **Apply** to save changes.
- 7 Click **OK** to save changes and close the form. If you do not wish to save changes, click **Cancel**.

RMON Ethernet Statistics
Change Threshold

Use this form to change the default settings for Interface for the RMON Ethernet Statistics report pack. You can modify the default Broadcast Multicast threshold settings for each Interface. Select the Device, Interface you want to change the settings for, and then enter the new settings below. Click the Apply button to save any changes. Click the Cancel button to cancel any changes. Click the OK button to save changes and close the form.

Device and Interface List		
Device Name	Interface Name	Default BcastMcast Threshold

Broadcast Multicast Threshold

OK Apply Cancel

The Reports

The RMON Ethernet Statistics Report Pack includes the following reports:

- [Near Real Time Broadcast Multicast](#)
- [Near Real Time Packet Size Distribution](#)
- [Near Real Time Errors](#)
- [Drop Events](#)
- [Inventory](#)

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.

The RMON Ethernet Statistics Report Pack offers reports that identify the devices in the network that have Rate Limit Objects (RLO) assigned to their interfaces and the activity related to those RLOs. The content of Historical Reports resemble that of the Near Real Time Reports. The only difference is that while the former represents the time period in recent days and weeks, the latter shows this in recent hours.

Near Real Time Broadcast Multicast

This report displays the volume of Broadcast and Multicast packet counts on a segment. The selection table contains interfaces, Packet counts, ratio of Utilization %, Broadcast % and Multicast % from the last six hours of data which also includes the data from the most recent poll cycle. In addition to the above details, this selection table brings out Device name, Customer, ifSpeed, ifAdminStatus, Protocol, Poll cycle start time and Duration in another table.

The bar charts below display the packet type distribution ratio for the previous 12 hours. The packet types shown are Broadcast %, Multicast %, and Unicast %. Unicast packet counts are not explicitly available in the MIB, so it is assumed that the Total Packet count - (Broadcast packet count + Multicast packet count) = Unicast packet count. Some devices will report these values incorrectly, which will result in a value of total packets greater than 100%.

To make these graphs easier to read, right-click the graph, select **View in New Frame**, and resize the window.

The bar chart below to the packet type distribution shows packet counts for Broadcast and Multicast. Each bar represents one poll and every poll is represented. At the bottom, the Utilization threshold and Broadcast+Multicast threshold graph indicates a threshold value for individual interfaces.

Near Real Time Packet Size Distribution

This report displays the total number of Packets carried on the network segment and their size distribution. Packet size is important in the Ethernet world due to limitations on the maximum size of the frame, the relationship between frame size and physical segment size, and constraints on buffer size imposed by frame size.

This report also shows the error packet % (the percentage of all packets which were counted as having errors), Octets, and Utilization % for the recent poll cycle. In addition to the above details, this selection table indicates device name, customer, ifSpeed, AdminStatus, protocol, Poll Cycle start time and Duration in another table.

The bar charts below displays the packet size distribution of Ethernet frame sizes processed by the network segment for the previous 12 hours. The packet size classifications are

- Pkts64
- Pkts65to127
- Pkts128to255
- Pkts256to511
- Pkts512to1023
- Pkts1024to1518 Octets

Each bar represents one poll and every poll is represented. To make these graphs easier to read, right-click the graph, select **View in New Frame**, and resize the window.

The bar chart below to the packet size distribution shows the packet count ratio of Broadcast and Multicast packets over the total Packets for previous 12 hours. The Utilization threshold graph indicates a threshold value for individual interfaces.

Near Real Time Errors

This report displays the number of packets processed, Error packet % (is the percentage of all packets which were counted as having errors), and the error packets distribution ratio for the data collected in the last six hours which also includes the most recent poll cycle on the segment. The displayed error packet distributions are % Frag, % CRC Align, % Under, % Over and % Jabbers.

- **% CRC Align:** percentage of packets received that had a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets, inclusive, but were not an integral number of octets in length or had a bad Frame Check Sequence.
- **% Under:** percentage of packets received that were less than 64 octets long (excluding framing bits but including FCS octets) and were otherwise well formed.
- **% Over:** percentage of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets) and were otherwise well formed.

- **% Frag:** percentage of packets which were not an integral number of octets in length or that had a bad Frame Check Sequence (FCS), and were less than 64 octets in length (excluding framing bits but including FRS octets).
- **% Jabbers:** percentage of packets received that were longer than 1518 octets (excluding framing bits but including FSC octets), and were not an integral number of octets in length or had a bad Frame Check Sequence (FCS)

Drop Events

This report displays the number of times packets were dropped because the RMON device could not keep up with the flow of traffic on the network. This value reflects the number of times packets were dropped not the actual number of packets. Drop events indicate an overburdened RMON device but not necessarily an overburdened network.

This report has one entry for each customer and provides information of Device name, Make, Model and aggregated Drop Events for each RMON Ethernet Statistics enabled device. Modify the report constraints to limit the number of interfaces displayed. Only devices polled yesterday will be displayed. The bottom table displays the aggregated drop event for the interface level.

Inventory

This report displays all the RMON Ethernet Statistics enabled interfaces in your network. Use this report to keep track of interfaces on a customer-by-customer basis and to compare interfaces on different devices. The interface details are updated after every poll cycle, while the list of customers is refreshed once a day. The data in this report is inherited from the Interface Reporting Report Pack

RMON Ethernet Statistics

Historical Broadcast + Multicast Packet Analysis

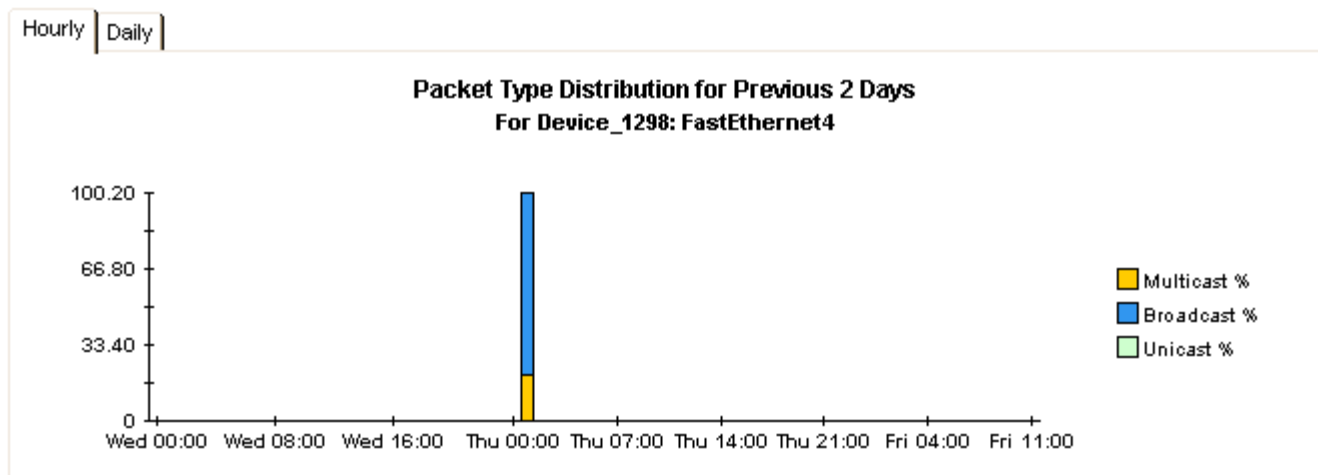


This report has one entry for each interface, data in the selection table relates to all of yesterday combined. The tabbed areas graph movements over the previous hours and days. Excessive (> 10%) broadcast or multicast packets can be detrimental to network performance. % Util calculates the utilization using the provisioned ifSpeed for half duplex interfaces.

Interface Data From Yesterday

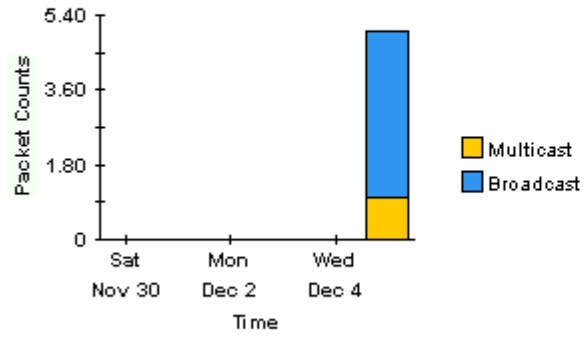
Device	Interface	Description	Pkts	% Util	Bcast %	Mcast %
Device_1298	4	FastEthernet4	5	N/A	80	20
Device_1265	80	Module 7, Port 12	207,215	0	78	22
Device_1265	78	Module 7, Port 10	207,214	0	78	22
Device_1265	75	Module 7, Port 7	207,213	0	78	22
Device_1265	94	Module 8, Port 4	207,213	0	78	22
Device_1265	69	Module 7, Port 1	207,211	0	78	22
Device_1265	71	Module 7, Port 3	207,211	0	78	22
Device_1265	74	Module 7, Port 6	207,211	0	78	22
Device_1265	66	Module 6, Port 20	207,210	0	78	22
Device_1265	58	Module 6, Port 12	207,209	0	78	22
Device_1265	53	Module 6, Port 7	207,208	0	78	22
Device_1265	52	Module 6, Port 6	207,207	0	78	22
Device_1265	42	Module 5, Port 18	207,206	0	78	22
Device_1265	43	Module 5, Port 19	207,206	0	78	22

Make	Model	Customer	AdminStatus	Protocol	Speed
Foundry Networks	Nettron Gigabit Switching Router	Customer Unassigned	Up	iso88023-csmacd	Not set.

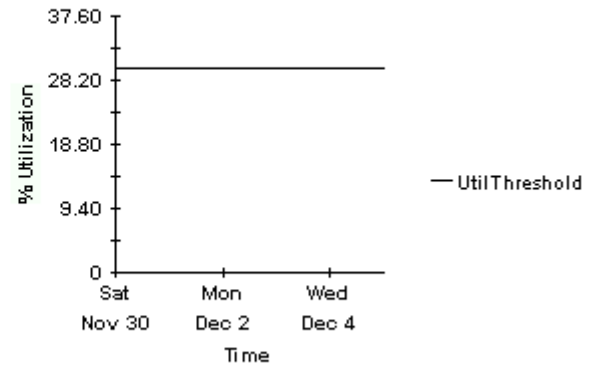


Continued on next page

**Broadcast + Multicast Packet Counts
For Previous 31 Days**



% Utilization for Previous 31 Days



RMON Ethernet Statistics

Near Real Time Packet Size Distribution



This report has one entry for each interface, data is displayed for the most recent poll cycle and the graphs show the previous 12 hours. % Error Pkts is the percentage of all packets which were counted as having errors. % Util calculates the utilization using the provisioned ifSpeed for half duplex interfaces.

Interface Data From Most Recent Poll Cycle

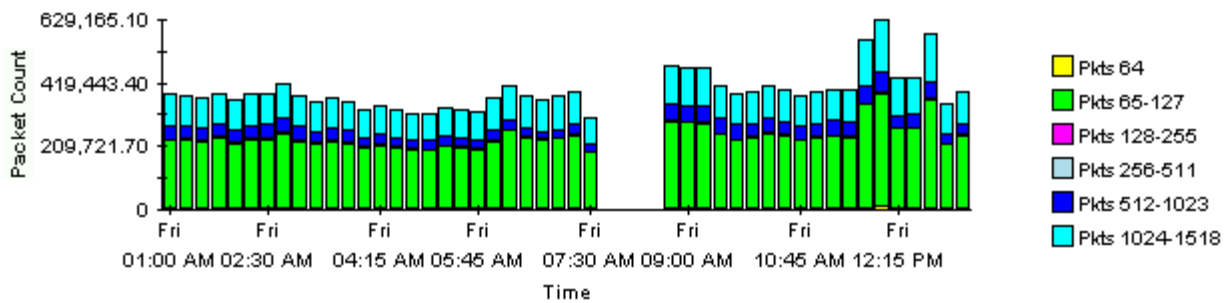
Change Constraints to Modify the List

Device	Interface	Description	Pkts	% Error Pkt	Octets	% Util
Device_1262	10	Summit7iTx-Port 10	393,619	0.00000	195.3 MB	2
Device_1282	10	RMON Port 10 on Unit 1	384,820	0.00000	283.5 MB	3
Device_1283	10	RMON Port 10 on Unit 1	384,635	0.00000	283.4 MB	3
Device_1244	10	10	267,653	0.00000	149.3 MB	1
Device_1242	10	GigabitEthernet10	9,086	0.00000	873.5 KB	0
Device_1288	10	RMON Port 10 on Unit 1	4,287	0.00000	504.7 KB	0
Device_1287	10	RMON Port 10 on Unit 1	4,286	0.00000	504.5 KB	0
Device_1289	10	RMON Port 10 on Unit 1	4,284	0.00000	504.5 KB	0
Device_1290	10	RMON Port 10 on Unit 1	4,279	0.00000	504.0 KB	0
Device_1293	10	FastEthernet10	4,224	1.60985	515.3 KB	0
Device_1286	10	B2	1,629	0.00000	149.2 KB	0
Device_1298	10	FastEthernet10	507	0.00000	51.0 KB	0
Device_1276	10	Summit48i-Port 10	212	0.00000	18.4 KB	0

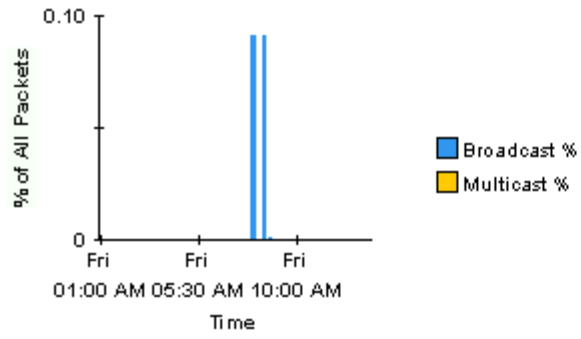
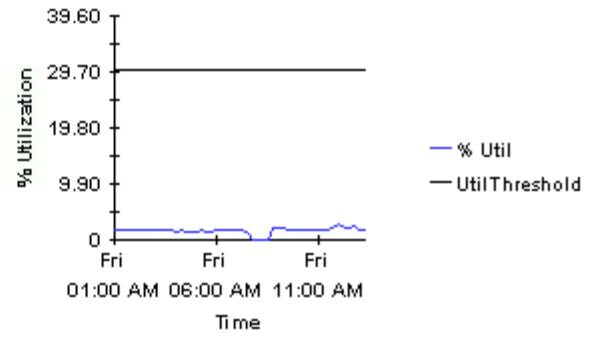
Customer	AdminStatus	Protocol	Speed	Poll Cycle Start	Duration (sec)
Customer Unassigned	Up	ethernet-csma/cd	100.0 Mb/s	Fri Dec 06 13:15:00 EST 2002	896

Packet Size Distribution For Previous 12 Hours

For Device_1262: Summit7iTx-Port 10



Continued on next page

**Broadcast + Multicast
For Previous 12 Hours****% Utilization
For Previous 12 Hours**

RMON Ethernet Statistics

Near Real Time Error Report



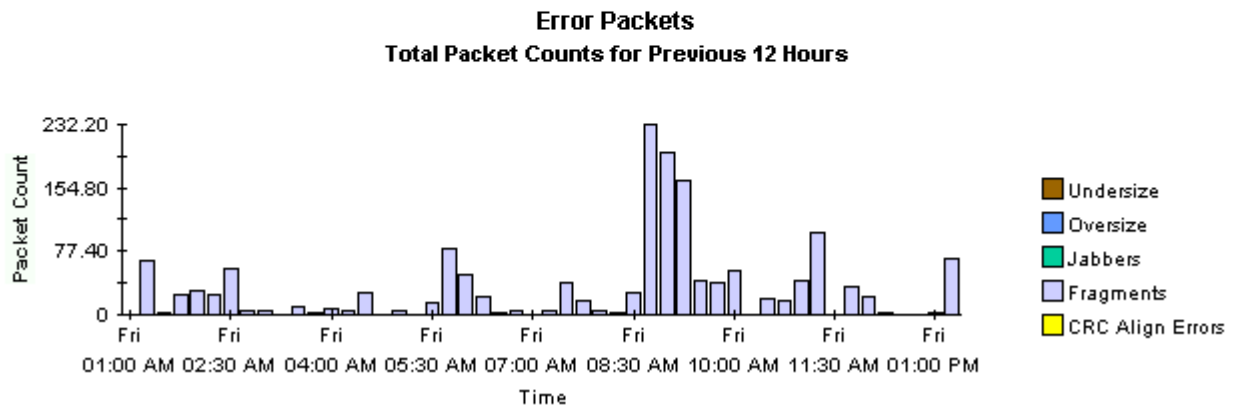
This report has one entry for each interface, data is displayed for the most recent poll cycle and the graphs show the previous 12 hours. % Error Pkts is the percentage of all packets which were counted as having errors. Of the error packets, % Frag is the ratio which were fragmented - the same applies to % CRC Align, % Under, % Over and % Jabbers.

Interface Data From Most Recent Poll Cycle

Change Constraints to Modify the List

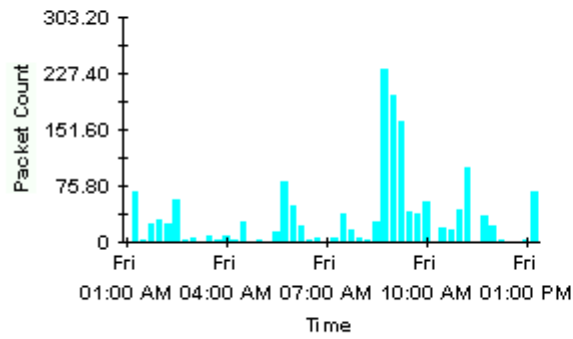
Device	Interface	Pkts	% Error Pkt	% Frag	% CRCAlign	% Under	% Over	% Jabbers
Device_1293	10	4,224	1.60985	100	0	0	0	0
Device_1251	10	0	0.00000	0	0	0	0	0
Device_1252	10	0	0.00000	0	0	0	0	0
Device_1249	10	0	0.00000	0	0	0	0	0
Device_1244	10	267,653	0.00000	0	0	0	0	0
Device_1287	10	4,286	0.00000	0	0	0	0	0
Device_1288	10	4,287	0.00000	0	0	0	0	0
Device_1289	10	4,284	0.00000	0	0	0	0	0
Device_1290	10	4,279	0.00000	0	0	0	0	0
Device_1286	10	1,629	0.00000	0	0	0	0	0
Device_1284	10	3	0.00000	0	0	0	0	0
Device_1282	10	384,820	0.00000	0	0	0	0	0
Device_1283	10	384,635	0.00000	0	0	0	0	0

Customer	AdminStatus	Protocol	Speed	Poll Cycle Start	Duration (sec)
Customer Unassigned	Up	iso88023-csma/cd	10.0 Mb/s	Fri Dec 06 13:15:00 EST 2002	895

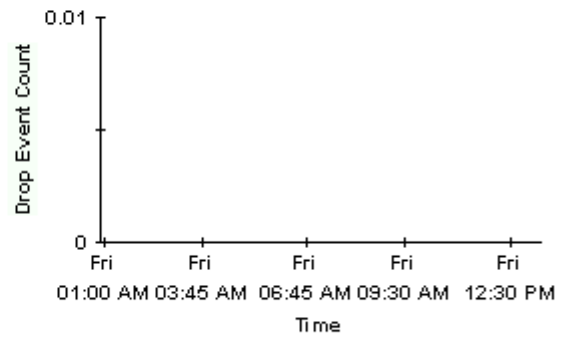


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**Packet Collision Counts
For Previous 12 Hours**



**Probe Drop Events
For Previous 12 Hours**



RMON Ethernet Statistics

Historical Broadcast + Multicast Packet Analysis

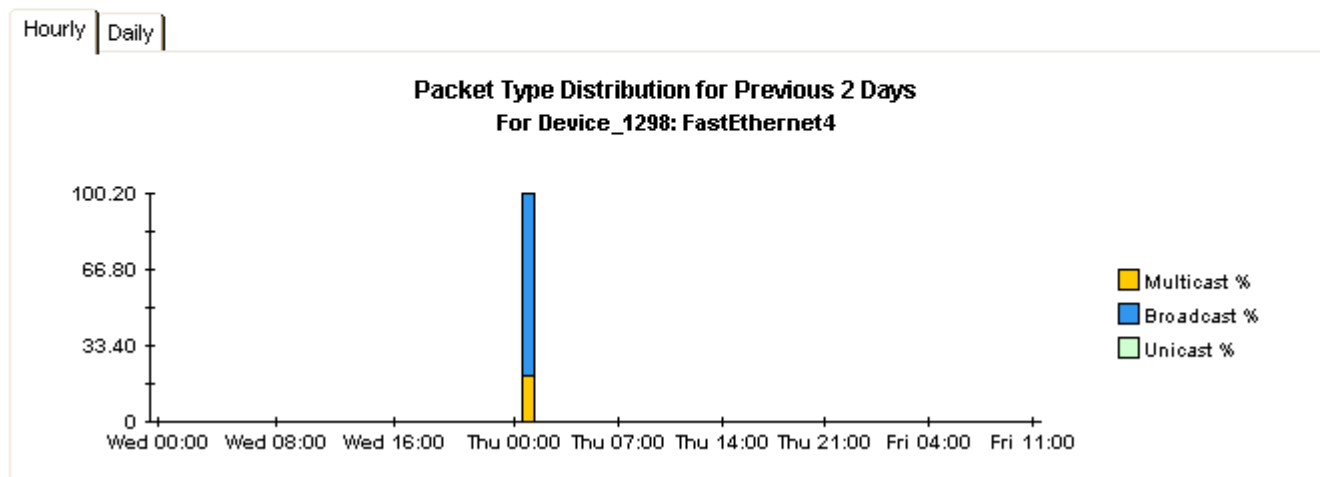


This report has one entry for each interface, data in the selection table relates to all of yesterday combined. The tabbed areas graph movements over the previous hours and days. Excessive (> 10%) broadcast or multicast packets can be detrimental to network performance. % Util calculates the utilization using the provisioned ifSpeed for half duplex interfaces.

Interface Data From Yesterday

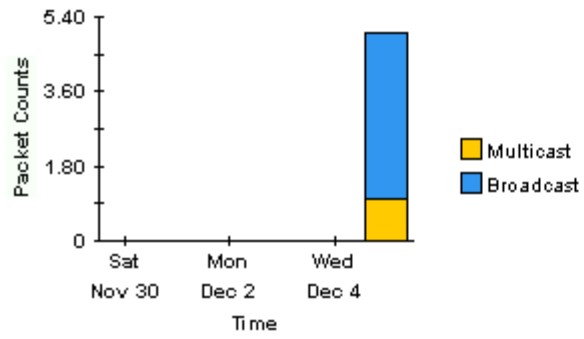
Device	Interface	Description	Pkts	% Util	Bcast %	Mcast %
Device_1298	4	FastEthernet4	5	N/A	80	20
Device_1265	80	Module 7, Port 12	207,215	0	78	22
Device_1265	78	Module 7, Port 10	207,214	0	78	22
Device_1265	75	Module 7, Port 7	207,213	0	78	22
Device_1265	94	Module 8, Port 4	207,213	0	78	22
Device_1265	69	Module 7, Port 1	207,211	0	78	22
Device_1265	71	Module 7, Port 3	207,211	0	78	22
Device_1265	74	Module 7, Port 6	207,211	0	78	22
Device_1265	66	Module 6, Port 20	207,210	0	78	22
Device_1265	58	Module 6, Port 12	207,209	0	78	22
Device_1265	53	Module 6, Port 7	207,208	0	78	22
Device_1265	52	Module 6, Port 6	207,207	0	78	22
Device_1265	42	Module 5, Port 18	207,206	0	78	22
Device_1265	43	Module 5, Port 19	207,206	0	78	22

Make	Model	Customer	AdminStatus	Protocol	Speed
Foundry Networks	NetTron Gigabit Switching Router	Customer Unassigned	Up	iso88023-csma/td	Not set.

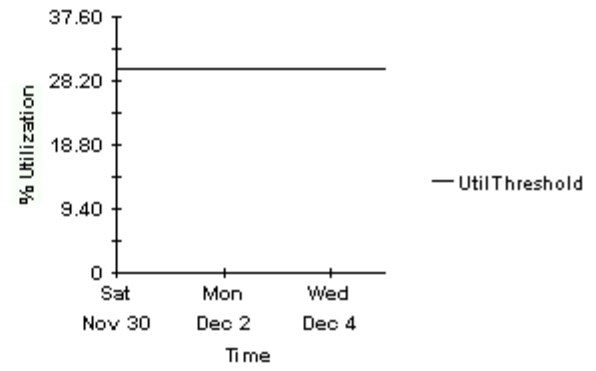


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**Broadcast + Multicast Packet Counts
For Previous 31 Days**



% Utilization for Previous 31 Days



RMON Ethernet Statistics

Historical Packet Size Distribution

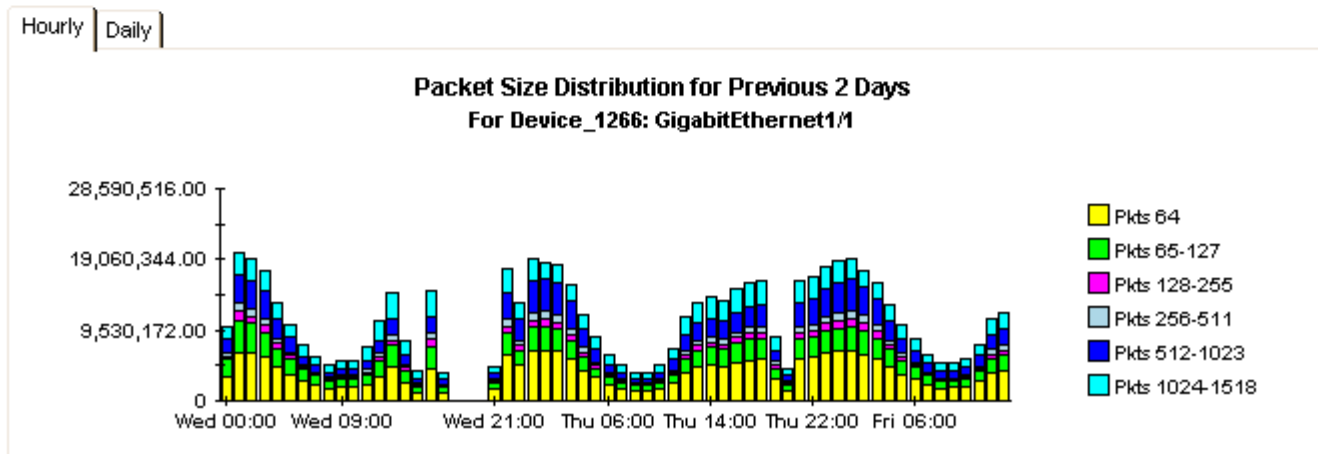


This report has one entry for each interface, data in the selection table relates to all of yesterday combined. The tabbed areas graph movements over the previous hours and days. % Error Pkts is the percentage of all packets which were counted as having errors. % Util calculates the utilization using the provisioned ifSpeed for half duplex interfaces.

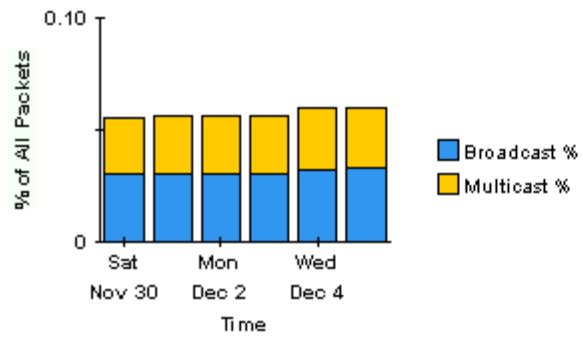
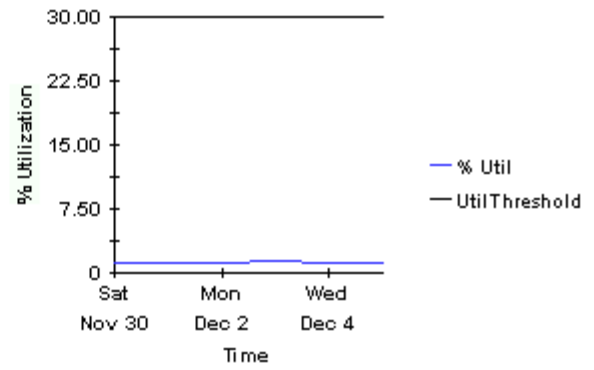
Interface Data From Yesterday

Device	Interface	Description	Pkts	% Error Pkt	Octets	% Util
Device_1266	1	GigabitEthernet1/1	285,661,849	0.00000	120.6 GB	1
Device_1266	129	FastEthernet3/1	247,398,123	0.00000	115.4 GB	12
Device_1262	7	Summit7iTx-Port 7	145,181,610	0.00000	99.2 GB	11
Device_1289	25	RMON Port 25 on Unit 1	158,230,014	0.00000	95.1 GB	1
Device_1290	25	RMON Port 25 on Unit 1	158,265,132	0.00000	95.1 GB	1
Device_1288	25	RMON Port 25 on Unit 1	155,187,730	0.00000	93.1 GB	1
Device_1287	25	RMON Port 25 on Unit 1	155,179,749	0.00000	93.1 GB	1
Device_1293	13	FastEthernet13	1,398,119,759	0.00000	84.6 GB	8
Device_1282	11	RMON Port 11 on Unit 1	213,507,666	0.00000	81.6 GB	8
Device_1283	11	RMON Port 11 on Unit 1	213,500,099	0.00000	81.6 GB	8
Device_1282	2	RMON Port 2 on Unit 1	515,516,670	0.00000	64.4 GB	6
Device_1283	2	RMON Port 2 on Unit 1	515,517,548	0.00000	64.4 GB	6
Device_1300	113	RMON:10/100 Port 13 on Unit 1	503,081,263	0.00000	62.5 GB	6
Device_1282	18	RMON Port 18 on Unit 1	93,284,251	0.00000	56.3 GB	6

Make	Model	Customer	AdminStatus	Protocol	Speed
Foundry Networks	Router	Customer Unassigned	Up	gigabitEthernet	1.0 Gb/s



Continued on next page

**Broadcast + Multicast Packets
For Previous 31 Days****% Utilization for Previous 31 Days**

RMON Ethernet Statistics

Historical Error Report

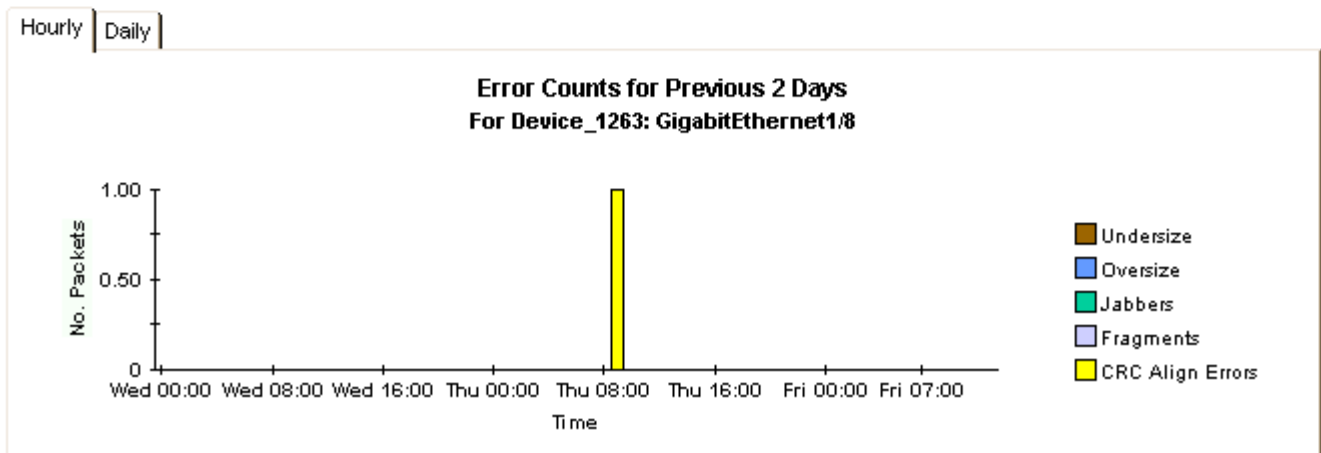


This report allows you to select interfaces based on their performance yesterday. The graphs below the selection table show data for the previous hours and days for the selected interface. % Error Pkts is the percentage of all packets which were counted as having errors. Of the error packets, % Frag is the ratio which were fragmented - the same applies to % CRC Align, % Under, % Over and % Jabbers. Drop events signify when the RMON agent was unable to maintain the counters and had to ignore sets of packets.

Interface Data From Yesterday

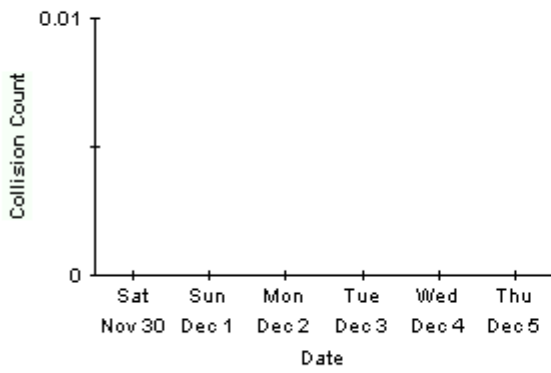
Device	Interface	Pkts	% Error Pkt	% Frag	% CRCAlign	% Under	% Over	% Jabbers
Device_1263	8	1	100.00000	0	100	0	0	0
Device_1293	10	20,575,326	12.06186	100	0	0	0	0
Device_1243	102	32,595,144	8.02741	100	0	0	0	0
Device_1301	1003	105,883	7.17679	46	54	0	0	0
Device_1294	1003	105,885	7.17665	46	54	0	0	0
Device_1294	1006	258,201	7.11771	95	5	0	0	0
Device_1301	1006	258,219	7.11721	95	5	0	0	0
Device_1265	21	286,785	6.98537	0	100	0	0	0
Device_1247	1014	1,456,458	3.86616	100	0	0	0	0
Device_1246	1014	1,456,459	3.86616	100	0	0	0	0
Device_1293	8	542,695	3.66283	100	0	0	0	0
Device_1293	6	829,206	2.51337	94	6	0	0	0
Device_1263	200	325,932	1.65280	99	1	0	0	0
Device_1293	12	854,523	1.55572	7	93	0	0	0

Make	Model	Customer	AdminStatus	Protocol	Speed
Foundry Networks	Router	Customer Unassigned	Up	gigabitEthernet	Not set.

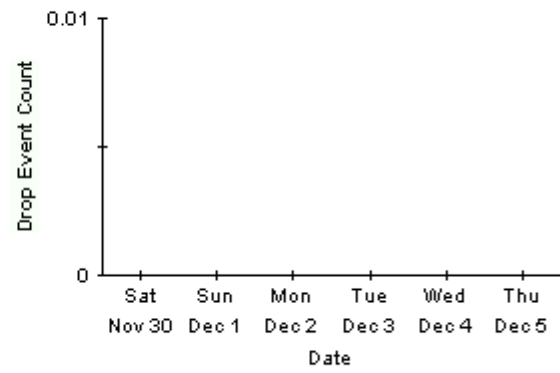


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Packet Collision Counts for Previous 31 Days



Probe Drop Events for Previous 31 Days



RMON Ethernet Statistics

Drop Events Report



This report has one entry for each customer and provides information on aggregated Drop Events for each RMON Ethernet Statistics enabled device. A 'DropEvent' is defined as "The total number of events in which packets were dropped by the probe due to lack of resources. Note that this number is not necessarily the number of packets dropped; it is just the number of times this condition has been detected." Modify the report constraints to limit the number of interfaces displayed. Only devices polled yesterday will be displayed.

Customer	Customer Id
Customer Unassigned	-2

Devices Associated the Selected Customer With DropEvents Yesterday

Device	Make	Model	Drop Events
Device_1284	Intel Corporation	460T Standalone Switch (24 port).	45

Interfaces Associated with 64.42.232.1: Intel Express 460T Standalone Switch (24 port). Change Constraints to Modify the List

Interface	etherStatsIndex	AdminStatus	Protocol	Full/Half	Speed	Drop Events
1	1	Up	ethernet-osaacd	H	100.0 Mb/s	45

RMON Ethernet Statistics

Inventory Report



This report has one entry for each customer and provides inventory information for the provisioned interfaces supporting RMON Ethernet Statistics data. Modify the report constraints to limit the number of interfaces displayed. Only interfaces which were polled yesterday will be displayed.

Customer	Customer Id
Customer Unassigned	-2

Devices Associated with the Chosen Customer

Device	Make	Model	sysDescr
Device_1160	Wellfleet	N/A	Image: rel/13.10/ Created on M...
Device_1161	Xylan Corp.	Alcatel OmniSwitch	Alcatel OmniSwitch
Device_1162	Extreme Networks	Summit48i	Summit48i - Version 6.2.2 (Bui...
Device_1163	Extreme Networks	Summit48	Summit48 - Version 4.1.19 (Bui...
Device_1242	Foundry Networks	ServerIron Switch	Foundry Networks, Inc. Serverl...
Device_1243	3Com	SuperStack II	3Com SuperStack II
Device_1244	Hewlett Packard	J4813A ProCurve Switch 2524	HP J4813A ProCurve Switch 2524...
Device_1245	Intel Corporation	550T Express 550T Switch	(c) Intel Corporation, 550T Ex...
Device_1246	Extreme Networks	Alpine3808	Alpine3808 - Version 6.2.2 (Bu...
Device_1247	Extreme Networks	Alpine3808	Alpine3808 - Version 6.2.2 (Bu...
Device_1248	Wellfleet	N/A	Image: rev/14.00/1D5 Created o...
Device_1249	Extreme Networks	Summit48	Summit48 - Version 4.1.19 (Bui...
Device_1250	Extreme Networks	Summit48	Summit48 - Version 4.1.19 (Bui...
Device_1251	Extreme Networks	Summit48	Summit48 - Version 4.1.19 (Bui...
Device_1252	Extreme Networks	Summit48	Summit48 - Version 4.1.19 (Bui...
Device_1255	Cisco	7206VXR	Cisco Internetwork Operating S...

Interfaces Associated with the Chosen Device

65.113.244.1: Image: rel/13.10/ Created on Mon Nov 23 19:10:42 EST 1998.

Interface	etherStatsIndex	AdminStatus	Protocol	Full/Half	Speed	Location
4	1	Up	other	F	In: 100.0 Mb/s Out: 100.0 Mb/s	Location Unassigned

Editing Tables and Graphs

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

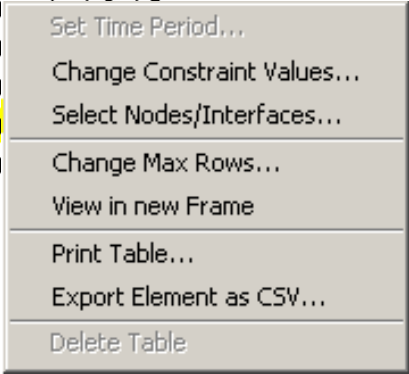
- [View Options for Tables](#)
- [View Options for Graphs](#)

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 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	



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.

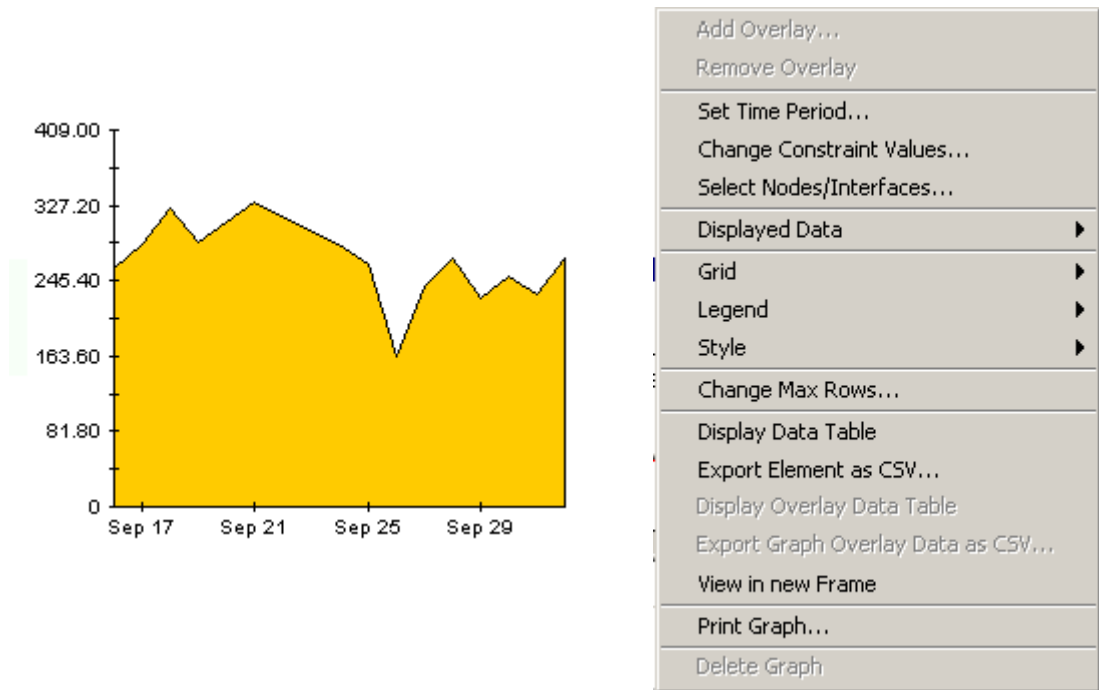
Change Max Rows increases or decreases the number of rows in a table. The default is 50. If you expand the default, the table may take more time to open. If you are trending a large network, using the default ensures that the table opens as quickly as possible.

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.



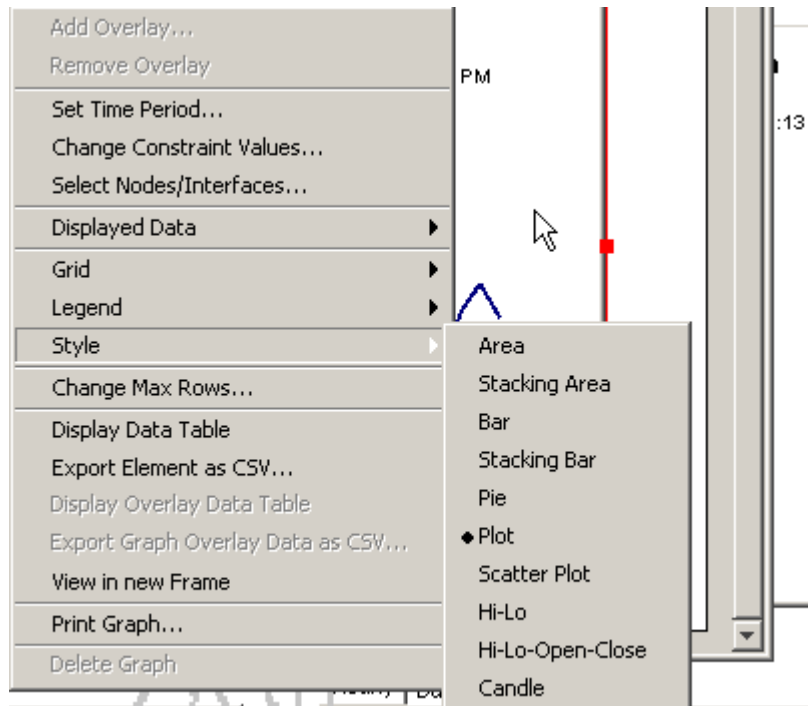
The following table provides a few details about each option.

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.

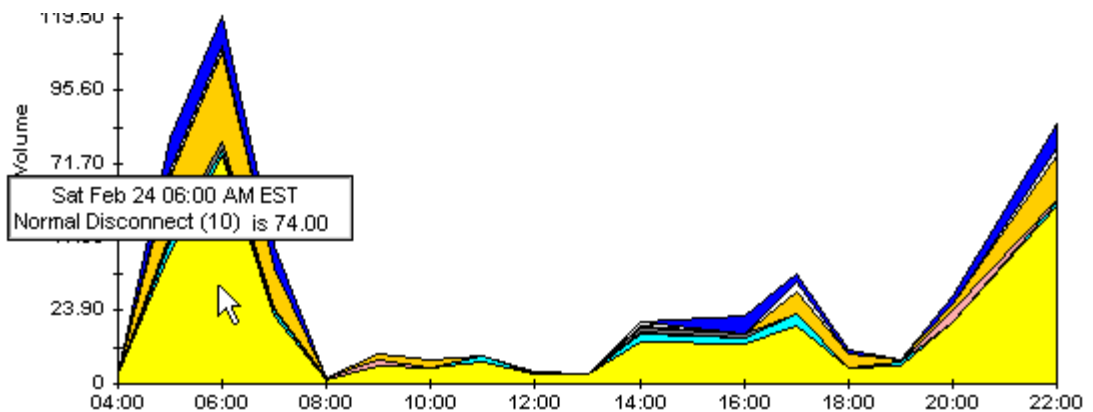
Style Options

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



Style > Area

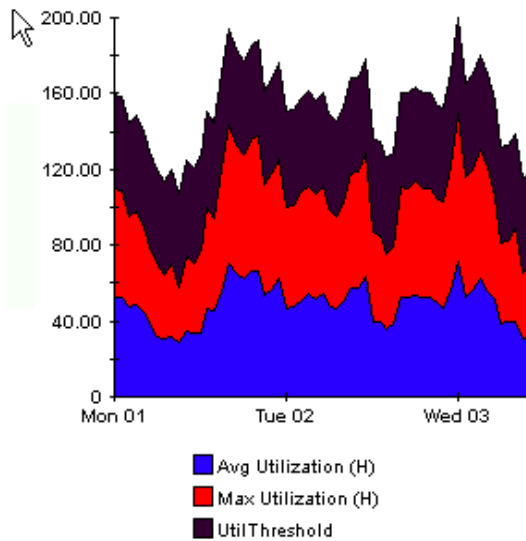
The plot or bar chart changes to an area graph. While relative values and total values are easy to view in this format, absolute values for smaller data types may be hard to see. Click anywhere within a band of color to display the exact value for that location



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.

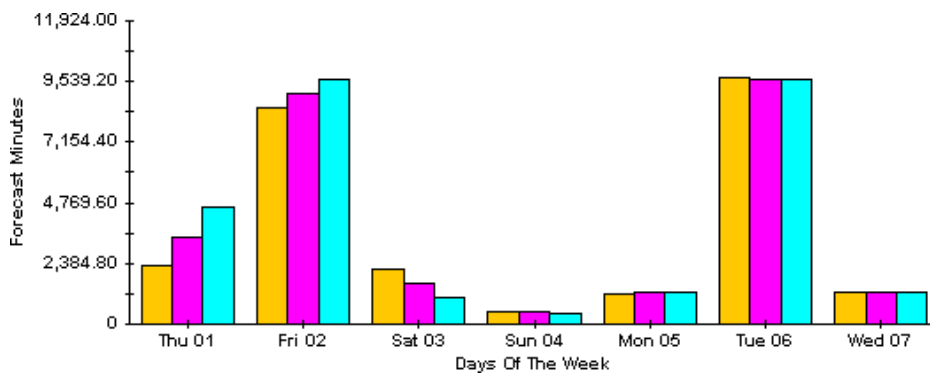
Style > Stacking Area

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



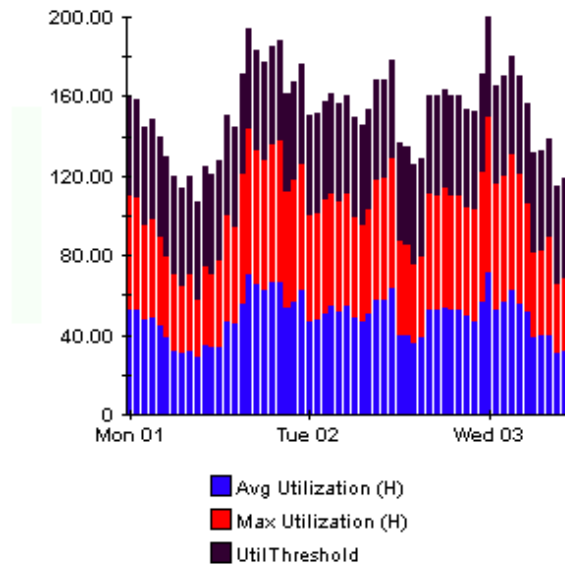
Style > Bar

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.



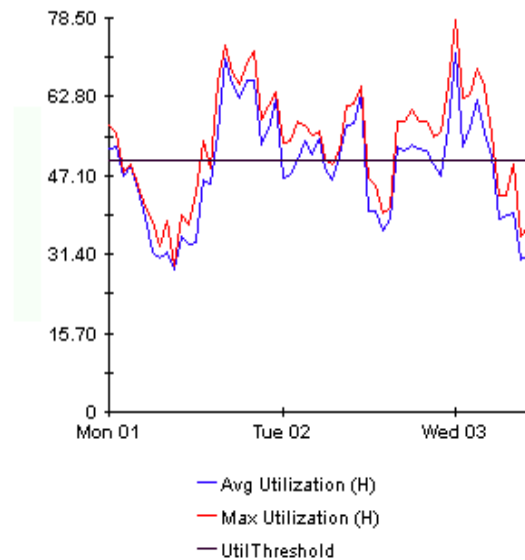
Style > Stacking Bar

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.



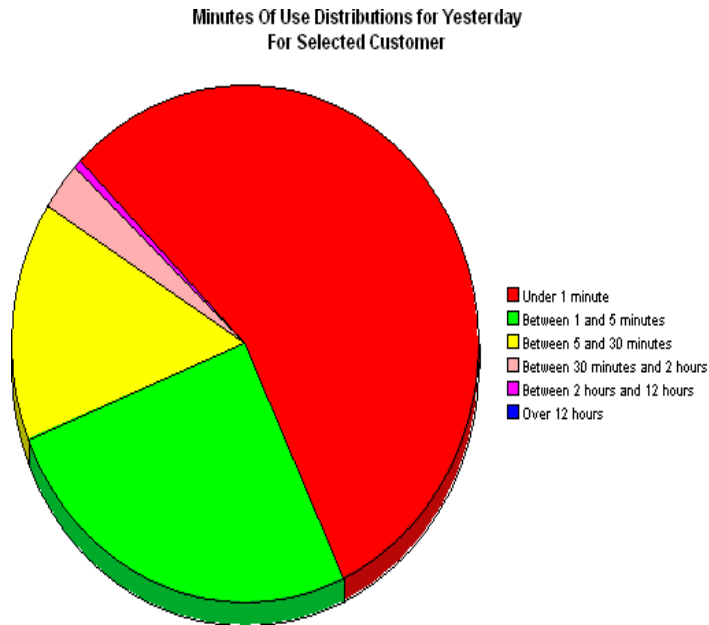
Style > Plot

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.

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
Input	0	85,466	547	Tue Oct 29 05:45 AM
Input	1	0	0	Tue Oct 29 05:45 AM
Input	2	0	0	Tue Oct 29 05:45 AM
Input	3	0	0	Tue Oct 29 05:45 AM
Input	4	0	0	Tue Oct 29 05:45 AM
Input	5	0	0	Tue Oct 29 05:45 AM
Input	6	0	0	Tue Oct 29 05:45 AM
Input	7	0	0	Tue Oct 29 05:45 AM

broadcast packet

A packet that is transmitted to all hosts on an Ethernet. The reports display the ratio of Broadcast to other types of packet.

collisions

A collision is the result of two devices on the same Ethernet network attempting to transmit data at exactly the same time.

drop events

An overrun at a port. The RMON port could not receive and process the traffic at full line rate and had to drop some packets from the counters. This does not imply a packet drop from the network but changes in drop events implies an RMON infrastructure which is overburdened.

fragments

A piece of a packet. Sometimes a communications packet being sent over a network has to be temporarily broken into fragments; the packet should be reassembled when it reaches its destination.

jabbers

Packets that were longer than 1518 octets and also contained alignment errors.

multicast packet

Communication between a single sender and multiple receivers on a network. The reports display the ratio of Multicast to other types of packet.

packets

A unit of data formatted for transmission on a network. Data is broken up into packets for sending over a packet switching network. Packet counts are shown with discard ratios.

port

Any frame relay interface on any network device that supports MIB-II.

octets

Eight bits. Octet is sometimes used instead of the term byte to avoid confusion, because not all computer systems use bytes that are eight bits long. The reports display octet counts on the LAN segment.

oversize packets

Packets received that were longer than 1518 octets and were otherwise well formed.

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