Monitoring Data

The Monitor tab provides options for viewing various types of monitored data. There are options for:

- Overview of Data Collection and Data Sources, page 4-2
- Viewing the Monitor Overview Charts, page 4-10
- Viewing Application Groups, page 4-12
- Viewing Individual Applications Data, page 4-19
- Viewing Collected URLs, page 4-29
- Viewing Voice Data, page 4-33
- Monitoring Hosts Data, page 4-44
- Viewing Conversations Data, page 4-58
- Viewing VLAN Data, page 4-73

Note: VLAN data is not available on NM-NAM devices.

- Viewing DiffServ Data, page 4-83
- Monitoring Response Time Data, page 4-103
- Viewing Port/Interface Statistics Data, page 4-113
- Viewing System Health, page 4-127
- Viewing NBAR, page 4-136
## Overview of Data Collection and Data Sources

All statistics and monitoring data produced by the NAM are generated by various types of *collections*. A collection operates on a stream of packets and produces output based on the input stream. In most cases, a collection corresponds directly to MIB tables such as RMON or SMON.

The *Collection Definitions* table (Table 4-1) defines the different collection types.

<table>
<thead>
<tr>
<th>Collection</th>
<th>Definition</th>
<th>Corresponds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>Examines a stream of packets; produces a table of all network addresses observed in those packets (also known as the collection data). Each entry records the total number of packets and bytes sent and received by that host and the number of non-unicast packets sent by that host.</td>
<td>RMON2 nlHostTable (the actual implementation of the collection).</td>
</tr>
<tr>
<td>Protocol</td>
<td>Examines a stream of packets; produces a table of all protocols observed in those packets. Each entry indicates the number of packets and bytes observed for that protocol.</td>
<td>RMON protocolDistStatsTable (the actual implementation of the collection).</td>
</tr>
<tr>
<td>Capture</td>
<td>Examines a stream of packets; produces a table of actual packet data (the captureBufferEntries). Each entry contains an exact copy of the data observed in the packet.</td>
<td>RMON1 bufferTable, filterTable, and channelTable variables.</td>
</tr>
</tbody>
</table>
| Voice (proprietary) | Examines a stream of packets; produces tables of data for IP telephony-related protocols:  
  - All IP phones observed in the packet stream.  
  - Individual calls observed in the packet stream.  
  - Statistics (such as jitter and packet loss) for each phone and call entry are recorded.  
  - The worst-quality calls that were observed (determined by several characteristics). | —                                                                          |
The stream of packets on which a collection operates is called the *collection data source*. It might be different for each collection. The data produced by a collection is called the *collection data*.

**Note**

The collection data is usually in the form of SNMP tables (except in voice collections).

The NAM can support simultaneous combinations of different collections, each operating on different collection data sources.

- The number of potential simultaneous collections is limited only by CPU and memory resources.
- The collection data sources are limited by the SPAN sources. For more information on SPAN sources, see the “Setting Up Data Sources” section on page 3-9.

**Related Topics**

- Configuring Multiple Collections
- Protocol Auto Discovery
- NDE Flow Masks and V8 Aggregation Caches
Configuring Multiple Collections

You can configure multiple collections (such as host, conversation, protocol, ART, and voice) simultaneously on the NAM. Collections are always configured on separate data sources.

Associated with each collection is a specific collection data source that might or might not correspond directly with the SPAN/VACL traffic stream that was configured. Examples of collection data sources include:

- All packets in the SPAN/VACL traffic stream regardless of the port/VLAN or origin (ALL SPAN).
- All packets in the SPAN/VACL traffic stream on a specific VLAN (VLAN x).
- All packets in the SPAN/VACL traffic stream that were configured to arrive on a specific NAM data port (DATA PORT 1 or DATA PORT 2).

Note: These data sources are available only on the WS-SVC-NAM-2 model.

- NetFlow Data Export (NDE) records received by the NAM from either the local Supervisor engine module or other remote NDE sources (such as remote routers).
- Switch engine module (Supervisor) records received by the NAM. You can select any combination of Port statistics, VLAN statistics, and NBAR statistics.
- Router engine module records (Router) received by the NAM. You can select any combination of Interface statistics and NBAR statistics.

Individual collection instances process only those packets in the traffic streams that correspond to their configured data sources. For example, a host collection configured with a data source of VLAN 12 will not be populated with any received NDE flow records. Nor will it be populated with packets in the SPAN/VACL traffic stream that are not tagged for VLAN 12.

Similarly, a conversation collection configured with a data source specifying NDE records from a remote router will not be populated with any packets arriving in the SPAN/VACL traffic stream.
**Scenario**

You configured the SPAN/VACL traffic stream source to include VLANs 1, 2, and 3. You now want to start an application collection that counts the packets and bytes monitored for each application protocol.

You must specify a collection data source for this collection. The data source could be VLAN 1, VLAN 2, or VLAN 3, or any combination of the three.

If you configure the data source as VLAN 2, the collection generates statistics for those packets received on VLAN 2. However, if you were to specify VLAN 10 as the collection data source, even if VLAN 10 were a valid VLAN ID, the collection would never get populated with data because VLAN 10 was not configured as part of the SPAN/VACL traffic stream.

**Note**

The SPAN/VACL traffic stream represents the aggregate sum of all traffic being sent to the NAM for monitoring as a result of SPAN or VACL configuration on the local Supervisor engine module. In addition to the SPAN/VACL traffic stream, one or more NDE traffic streams might be received from the local Supervisor engine module or remote switches and routers. The data source configured for a specific collection instance must correspond to traffic that appears on one of these traffic streams, or else the collection statistics will not get populated.

Each possible collection data source is represented as an ifEntry in the NAM ifTable (MIB-II). The Data Collection Sources table (Table 4-2) describes the valid collection data sources.

### Table 4-2 Data Collection Sources

<table>
<thead>
<tr>
<th>Collection Data Source</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>All SPAN (aggregate SPAN/VACL traffic stream)</td>
<td>If no SPAN or VACL traffic sources are configured, the collection is not populated with data.</td>
</tr>
<tr>
<td>Specific VLAN ID</td>
<td>If the VLAN was not configured as part of the SPAN/VACL traffic stream, the collection is not populated with data.</td>
</tr>
<tr>
<td>NDE data source</td>
<td>The export parameters must be configured on the device that will export the records to the NAM; otherwise, the collection is not populated with data. Monitoring is limited to a subset of NAM collection types.</td>
</tr>
</tbody>
</table>
The SPAN, VACL, NDE Traffic Streams and Collection Data Sources illustration (Figure 4-1) shows the relationships between SPAN and NDE data sources and collection data sources.

**Figure 4-1  SPAN, VACL, NDE Traffic Streams and Collection Data Sources**

You can view real-time data from collections that were configured on the NAM. For more information on setting up collections on the NAM, see the “Configuring Capture Settings” section on page 6-5.

**Related Topics**
- Overview of Data Collection and Data Sources
- Protocol Auto Discovery
- NDE Flow Masks and V8 Aggregation Caches

**Protocol Auto Discovery**

Traffic Analyzer can automatically discover up to 100 unknown protocols. The protocols are displayed according to the parent type and an identifier.
The **Auto-Discovered Protocol Types** table (Table 4-3) lists the type of protocols that can be automatically discovered and how they are displayed.

### Table 4-3 Auto-Discovered Protocol Types

<table>
<thead>
<tr>
<th>Protocol Type</th>
<th>Displays As...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ether2</td>
<td>ether2-ether-type number</td>
</tr>
<tr>
<td>SNAP</td>
<td>snap-ether-type number</td>
</tr>
<tr>
<td>IP</td>
<td>ip-protocol type number</td>
</tr>
<tr>
<td>TCP</td>
<td>tcp-port number</td>
</tr>
<tr>
<td>UDP</td>
<td>udp-port number</td>
</tr>
<tr>
<td>SUNRPC</td>
<td>sunrpc-program number</td>
</tr>
</tbody>
</table>

**Note**

The automatically discovered protocols are not saved in NVRAM and are lost when the NAM is rebooted. To save an auto-discovered protocol, you can enter it manually into the Protocol Directory. For more information, see the “Creating a Protocol” section on page 3-57.

You can also clear the auto-discovered protocols without rebooting by entering the command `no monitor protocol auto-learned` in the NAM CLI.

**Related Topics**

- Creating a Protocol
- Overview of Data Collection and Data Sources
- Configuring Multiple Collections
- NDE Flow Masks and V8 Aggregation Caches

## NDE Flow Masks and V8 Aggregation Caches

Depending on the flow mask or aggregation configured at the device, some data fields might not be available in the NDE data structure. As a result, some windows will not display data for a NetFlow data source or will display specific conditions.
The Flow Mask and Aggregation Window Conditions table (Table 4-4) lists the display conditions for the windows under the Monitor tab and the flow-mask or aggregation that causes them.

**Table 4-4 Flow Mask and Aggregation Window Conditions**

<table>
<thead>
<tr>
<th>Flow Mask or Aggregation Cache</th>
<th>Window Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full flow mask</td>
<td>Supported in all windows.</td>
</tr>
</tbody>
</table>
| Destination only flow mask    | • Monitor>Apps displays “Others” only, and the detail pop-up window does not have data.  
• Monitor>Hosts displays 0.0.0.0 and the detail pop-up window does not have data.  
• Monitor>Conversations displays 0.0.0.0 for some hosts and the detail pop-up window does not have data. |
| Destination-Source flow mask  | • Monitor>Apps displays “Others” only, and the detail pop-up window does not have data.  
• Monitor>Hosts has data, but the detail pop-up window does not.  
• Monitor>Conversations has data, but the detail pop-up window does not. |
| V8-Protocol-Port-Aggregation  | • Monitor>Apps has data, and the detail pop-up window displays 0.0.0.0 only.  
• Monitor>Host displays 0.0.0.0 only.  
• Monitor>Conversations displays 0.0.0.0 to 0.0.0.0 only.  
• There is no data for custom NetFlow data sources that are set up for specific interfaces.  
• There is no DiffServ except TOS 0 and DSCP 0.  
• Setup>Data Sources>NetFlow Listening Mode detail pop-up window does not have interfaces information. |
### Table 4-4  Flow Mask and Aggregation Window Conditions (continued)

<table>
<thead>
<tr>
<th>Flow Mask or Aggregation Cache</th>
<th>Window Conditions</th>
</tr>
</thead>
</table>
| V8-Destination-Prefix-Aggregation | • Monitor>Apps displays “Others” only.  
• Monitor>Host displays data with subnets and 0.0.0.0. The detail pop-up window does not have data.  
• Monitor>Conversations displays data with 0.0.0.0 to subnets, and 0.0.0.0 to 0.0.0.0. The detail pop-up window does not have data.  
• There is no DiffServ except TOS 0 and DSCP 0.  
• There is support for NetFlow custom data sources that are set up for specific interfaces. |
| V8-Prefix-Aggregation | • Monitor>Apps displays “Others” only.  
• Monitor>Host displays data with subnets and 0.0.0.0. The detail pop-up window does not have data.  
• Monitor>Conversations displays data and 0.0.0.0 to 0.0.0.0. The detail pop-up window does not have data.  
• There is no DiffServ except TOS 0 and DSCP 0.  
• There is support for NetFlow custom data sources that are set up for specific interfaces. |
| V8-Source-Prefix-Aggregation | • Monitor>Apps displays “Others” only.  
• Monitor>Host displays data with subnets and 0.0.0.0. The detail pop-up window does not have data.  
• Monitor>Conversations displays data with subnets to 0.0.0.0, and 0.0.0.0 to 0.0.0.0. The detail pop-up window does not have data.  
• There is no DiffServ except TOS 0 and DSCP 0.  
• There is support for NetFlow custom data sources that are set up for specific interfaces. |
| V8-AS-Aggregation | Not supported. |
Viewing the Monitor Overview Charts

The Monitor Overview charts allow you to take a quick look, in graphical format, at the TopN protocol suites, active hosts, active applications, and application response times monitored on your network. To view the Monitor Overview charts, click the Monitor tab.

The following charts are displayed:

- Most Active Applications Chart (Figure 4-2)
- Most Active Hosts Chart (Figure 4-3)
- Server Response Times Chart (Figure 4-4)
- Protocol Suites Chart (Figure 4-5)

**Figure 4-2 Most Active Applications Chart**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Top N protocols sorted by color.</td>
</tr>
<tr>
<td>2</td>
<td>Number of bytes collected per second for each protocol.</td>
</tr>
</tbody>
</table>
Figure 4-3  Most Active Hosts Chart

1. Top N network addresses sorted by color.
2. Number of bytes collected per second for each address.

Figure 4-4  Server Response Times Chart

1. Server response times (msec)
2. Server and protocol details
3. Details of server response times and protocols.
Viewing Application Groups

To view the distribution of packets and bytes based on the application group, click the Monitor tab, then click **Apps** and select **Application Groups** from the Contents Menu. The Applications Group table is displayed with three radio buttons on top.

You can select a radio button for:

- Viewing the Application Groups Current Rates Table, page 4-13
- Viewing the Top N Application Group Chart, page 4-17
- Viewing the Application Groups Cumulative Data Table, page 4-18
Viewing the Application Groups Current Rates Table

The Application Groups Current Rates table allows you to view the number of packets and bytes collected for each application group. The data displayed is the number of packets and bytes or bits collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Procedure

Step 1
Click the Current Rates table radio button. The Application Groups Current Rates Table (Table 4-5) is displayed.

Step 2
Select the data source to monitor from the Data Source list.

Step 3
To view data for a specific protocol group, enter the group name in the text box, then click Filter. Any matching groups are displayed.

Table 4-5 Application Groups Current Rates Table

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Groups</td>
<td>Name of the application group.</td>
</tr>
<tr>
<td>Packets/s</td>
<td>Number of packets collected per second.</td>
</tr>
<tr>
<td>Bytes/s</td>
<td>Number of bytes collected per second.</td>
</tr>
<tr>
<td>Bits/s</td>
<td>Number of bits collected per second.</td>
</tr>
</tbody>
</table>

Tip

- To view the application list for a particular protocol group, click the + sign in front of the group name.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.
Related Topics

- Viewing Real-Time Data from the Application Group Table
- Viewing Reports from the Application Group Table
- Displaying Details from the Application Group Table
- Viewing the Application Groups Cumulative Data Table
- Viewing the Top N Application Group Chart

Displaying Details from the Application Group Table

To view details for a specific application group, select the application group and click Details. The Application Group Window (Figure 4-6) is displayed, showing all applications in this group and the network hosts using those particular applications. The displayed data is specific to the selected data source.

![Figure 4-6 Application Group Window](image)

The Applications Group Detail Window displays the information listed in Table 4-6.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Full name and description of each application in that group.</td>
</tr>
<tr>
<td>Host</td>
<td>The hostname of the computer using the application group.</td>
</tr>
</tbody>
</table>
You can view real-time data in a graphical format for a specific application protocol.

Select the protocol from the table, then click Real-Time. The Real-Time Graph (Figure 4-7) is displayed.
Viewing Reports from the Application Group Table

You can view reports directly from the Applications table. Select the application protocol for which to view a report, then click Report. The Basic Reports graph is displayed. If a report is not configured, one will be created based on the selected application and data source.

For more information on viewing and creating reports, see Chapter 5, “Creating and Viewing Reports.”

Related Topics

• Viewing Real-Time Data from the Application Group Table
• Viewing Real-Time Data from the Application Group Table
• Displaying Details from the Application Group Table
Viewing the Top N Application Group Chart

The TopN Applications Chart allows you to view the number of packets and bytes collected for the Top N application protocols in a graphical format. The data displayed is the number of packets and bytes collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Procedure

Step 1  
Click the TopN Chart radio button.

The TopN Application Group Chart (Figure 4-8) is displayed.

Figure 4-8  TopN Application Group Chart
Viewing Application Groups

Step 2  Select the data source to monitor from the Data Source list.
Step 3  Select one of the following from the Variable list:
- Packets—Displays the number of packets per second monitored.
- Bytes—Displays the number of bytes per second monitored.

Tip
- To turn off auto refresh, deselect the Auto Refresh check box.
- To view the full protocol name, move the cursor over the protocol name.

Related Topics
- Viewing the Application Groups Current Rates Table
- Viewing the Application Groups Cumulative Data Table

Viewing the Application Groups Cumulative Data Table

The Applications Groups Cumulative Data table allows you to view the number of packets and bytes collected for each application group. The data displayed is the total number of packets and bytes collected since the collection was created or since the NAM was restarted.

Procedure

Step 1  Click the Cumulative Data radio button.
The Application Group Cumulative Data Table (Table 4-7) is displayed.
**Table 4-7 Application Group Cumulative Data Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Name</td>
<td>Name of the monitored group.</td>
</tr>
<tr>
<td>Packets</td>
<td>Total number of packets collected over the last time interval.</td>
</tr>
<tr>
<td>Bytes</td>
<td>Total number of bytes collected over the last time interval.</td>
</tr>
</tbody>
</table>

**Step 2** Select the data source to be monitored from the Data Source list.

**Step 3** To refresh the table, click **Refresh**.

**Step 4** To view data for a specific group, enter the group name in the Group text box, then click **Filter**.

Any matching groups are displayed.

**Tip** To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

**Related Topics**
- Displaying Details from the Application Group Table
- Viewing Real-Time Data from the Application Group Table
- Viewing Reports from the Application Group Table
- Viewing the Application Groups Current Rates Table
- Viewing the Top N Application Group Chart

**Viewing Individual Applications Data**

To view the distribution of packets and bytes based on the application protocol, click **Monitor > Apps**. The Applications table is displayed with three radio buttons on top.

You can select a radio button for:
- Viewing the Application Groups Current Rates Table, page 4-13
Viewing the Applications Current Rates Table

The Applications Current Rates table allows you to view the number of packets and bytes collected for each application protocol. The data displayed is the number of packets and bytes collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Note
Auto learned or user defined protocols are not listed in the table.

Procedure

Step 1
Click the Current Rates table radio button.

The Application Groups Current Rates Table (Table 4-5) is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol</td>
<td>Name of the application protocol.</td>
</tr>
<tr>
<td>Packets/s</td>
<td>Number of packets collected per second.</td>
</tr>
<tr>
<td>Bytes/s</td>
<td>Number of bytes collected per second.</td>
</tr>
</tbody>
</table>

Step 2
Select the data source to monitor from the Data Source list.

Step 3
To view data for a specific protocol, enter the protocol name in the Protocol text box, then click Filter.

Any matching protocols are displayed.
Tip

- To view the full protocol name, move the cursor over the protocol name in the Protocol column of the Protocol Directory table.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

Related Topics

- Viewing Real-Time Data from the Application Group Table
- Viewing Real-Time Data from the Application Group Table
- Viewing Reports from the Application Group Table
- Displaying Details from the Application Group Table
- Viewing the Application Groups Cumulative Data Table
- Viewing the Top N Application Group Chart

Displaying Details from the Applications Table

To view details for a specific application protocol, select the protocol and click Details, or click on the protocol name in the Protocol column. The Application Group Window (Figure 4-6) is displayed, showing all network hosts using this protocol. The displayed data is specific to the selected data source.

Figure 4-9 Application Protocol Detail Window

<table>
<thead>
<tr>
<th>Host</th>
<th>In Plks</th>
<th>Out Plks</th>
<th>In Bytes</th>
<th>Out Bytes</th>
</tr>
</thead>
<tbody>
<tr>
<td>static-10-24-2-108.dscs.com</td>
<td>158060</td>
<td>315964</td>
<td>23055636</td>
<td>21507392</td>
</tr>
<tr>
<td>172.20.98.134</td>
<td>315968</td>
<td>158062</td>
<td>21507684</td>
<td>23055928</td>
</tr>
</tbody>
</table>

The Applications Protocol Detail Window displays the following information.
Capturing Application Protocol Data from the Application Table

You can capture data for a specific application protocol directly from the Application table.

Select the protocol from the table, then click **Capture**. The Packet Browser is displayed. For more information on viewing packets using the Packet Browser, see the “Viewing Detailed Protocol Decode Information” section on page 6-18.

If a capture is already running, a message window is displayed. Click **Yes** to stop the current capture or **No** to disregard your selection.

**Related Topics**
- Viewing Real-Time Data from the Application Group Table
- Viewing Real-Time Data from the Application Group Table
- Viewing Reports from the Application Group Table
- Viewing the Application Groups Current Rates Table
- Viewing the Top N Application Group Chart
- Viewing the Application Groups Cumulative Data Table

---

**Table 4-9 Application Protocol Detail Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Full name and description of the protocol.</td>
</tr>
<tr>
<td>Host</td>
<td>The hostname of the computer using the application protocol.</td>
</tr>
<tr>
<td>In Pkts</td>
<td>Number of packets the host received for the specified protocol.</td>
</tr>
<tr>
<td>Out Pkts</td>
<td>Number of packets the host transmitted for the specified protocol.</td>
</tr>
<tr>
<td>In Bytes</td>
<td>Number of bytes the host received for the specified protocol.</td>
</tr>
<tr>
<td>Out Bytes</td>
<td>Number of bytes the host transmitted for the specified protocol.</td>
</tr>
</tbody>
</table>
• Displaying Details from the Application Group Table
• Viewing the Application Groups Current Rates Table
• Viewing the Top N Application Group Chart
• Viewing the Application Groups Cumulative Data Table

Viewing Real-Time Data from the Application Table

You can view real-time data in a graphical format for a specific application protocol.

Select the protocol from the table, then click **Real-Time**. The Real-Time Graph (Figure 4-7) is displayed.

![Real-Time Graph](image)

**Figure 4-10 Real-Time Graph**

**Related Topics**

• Viewing Real-Time Data from the Application Group Table
• Viewing Reports from the Application Group Table
• Displaying Details from the Application Group Table
• Viewing the Application Groups Current Rates Table
• Viewing the Top N Application Group Chart
• Viewing the Application Groups Cumulative Data Table
Viewing Reports from the Applications Table

You can view reports directly from the Applications table. Select the application protocol for which to view a report, then click **Report**. The Basic Reports graph is displayed. If a report is not configured, one will be created based on the selected application and data source.

For more information on viewing and creating reports, see **Chapter 5, “Creating and Viewing Reports.”**

**Related Topics**
- Viewing Real-Time Data from the Application Group Table
- Viewing Real-Time Data from the Application Group Table
- Displaying Details from the Application Group Table
- Viewing the Application Groups Current Rates Table
- Viewing the Top N Application Group Chart
- Viewing the Application Groups Cumulative Data Table

Viewing the Top N Applications Chart

The TopN Applications Chart allows you to view the number of packets and bytes collected for the Top N application protocols in a graphical format. The data displayed is the number of packets and bytes collected per second over the last time interval. For information on setting the time interval, see the **“Setting Global Preferences for All Users”** section on page 3-85.

**Procedure**

**Step 1**
Click the TopN Chart radio button.

The TopN Application Group Chart (Figure 4-8) is displayed.
### Figure 4-11  TopN Applications Chart

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Data Source list.</td>
</tr>
<tr>
<td>2</td>
<td>Variable list.</td>
</tr>
<tr>
<td>3</td>
<td>Top N application protocols.</td>
</tr>
<tr>
<td>4</td>
<td>Number of bytes or packets collected per second on each Top N protocol.</td>
</tr>
</tbody>
</table>
Step 2 Select the data source to monitor from the Data Source list.

Step 3 Select one of the following from the Variable list:

- Packets—Displays the number of packets per second monitored.
- Bytes—Displays the number of bytes per second monitored.

Tip

- To turn off auto refresh, deselect the Auto Refresh check box.
- To view the full protocol name, move the cursor over the protocol name.

Related Topics

- Viewing the Application Groups Current Rates Table
- Viewing the Application Groups Cumulative Data Table

**Viewing the Applications Cumulative Data Table**

The Applications Cumulative Data Table allows you to view the number of packets and bytes collected for each application protocol. The data displayed is the total number of packets and bytes collected since the collection was created or since the NAM was restarted.

**Procedure**

Step 1 Click the Cumulative Data radio button.

The Application Group Cumulative Data Table (Table 4-7) is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol Name</td>
<td>Name of the monitored protocol.</td>
</tr>
<tr>
<td>Packets</td>
<td>Total number of packets collected over the last time interval.</td>
</tr>
<tr>
<td>Bytes</td>
<td>Total number of bytes collected over the last time interval.</td>
</tr>
</tbody>
</table>
Step 2  Select the data source to be monitored from the Data Source list.

Step 3  To refresh the table, click Refresh.

Step 4  To view data for a specific protocol, enter the protocol name in the Protocol text box, then click Filter.

Any matching protocols are displayed.

Tip  

- To view the full encapsulated protocol name, move the cursor over the protocol name in the Protocol column of the Protocol Directory table.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

Related Topics

- Displaying Details from the Application Group Table
- Viewing Real-Time Data from the Application Group Table
- Viewing Real-Time Data from the Application Group Table
- Viewing Reports from the Application Group Table
- Viewing the Application Groups Current Rates Table
- Viewing the Top N Application Group Chart

Displaying Details from the Applications Table

To view details for a specific application protocol, click on the protocol name in the Protocol column. The Protocol Detail Window (Figure 4-12) is displayed.
Figure 4-12  Protocol Detail Window

The Protocol Detail Window displays the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The hostname of the computer using the application protocol.</td>
</tr>
<tr>
<td>In Pkts</td>
<td>Number of packets the host received for the specified protocol.</td>
</tr>
<tr>
<td>Out Pkts</td>
<td>Number of packets the host transmitted for the specified protocol.</td>
</tr>
<tr>
<td>In Bytes</td>
<td>Number of bytes the host received for the specified protocol.</td>
</tr>
<tr>
<td>Out Bytes</td>
<td>Number of bytes the host transmitted for the specified protocol.</td>
</tr>
</tbody>
</table>

Related Topics

- Viewing the Application Groups Current Rates Table
- Viewing the Top N Application Group Chart
- Viewing the Application Groups Cumulative Data Table
Viewing Collected URLs

This section contains the following sections:

- Viewing Collected URLs
- Filtering a URL Collection List
- Creating a URL-based Application from a Collected URL

Viewing Collected URLs

**Procedure**

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Click the Monitor tab.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Click the Apps option.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Click URLs in the TOC.</td>
</tr>
</tbody>
</table>

The **URLs Window** (Figure 4-13) is displayed with the collected URLs.
**Table 4-12**  **URLs Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index</td>
<td>URL index</td>
</tr>
<tr>
<td>URL</td>
<td>Name of URL</td>
</tr>
<tr>
<td>Hits</td>
<td>Number of hits</td>
</tr>
</tbody>
</table>
**Filtering a URL Collection List**

**Procedure**

**Step 1** From the drop-down list in the **URLs Window** (Figure 4-13), select which part of the URL to filter:

- **URL**
  You can filter on any part of the URL.

- **Host**
  This filter applies only to the host part of collected URLs.

- **Path**
  This filter applies only to the path part of the collected URLs.

- **Arguments**
  This filter applies only to the argument part of the collected URLs.

**Step 2** Enter filter string.

**Step 3** Click **Filter** to apply the filter.

**Note** To remove any display filter and show all URLs collected, click **Clear**.
Creating a URL-based Application from a Collected URL

Procedure

**Step 1**  From the list of URLs as shown in Figure 4-13, click a radio button to select a row in the URL list.

**Step 2**  Click **Create URL-based Application**.

The Create URL-based Application window is displayed, as shown in Figure 4-14.

**Figure 4-14  Create URL-based Application**

<table>
<thead>
<tr>
<th>Create URL-based Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index (1 through 64):</td>
</tr>
<tr>
<td>Encapsulation Protocol:</td>
</tr>
<tr>
<td>IPv4</td>
</tr>
<tr>
<td>URL Host Part Match:</td>
</tr>
<tr>
<td>nimlab-jet2</td>
</tr>
<tr>
<td>URL Path Part Match:</td>
</tr>
</tbody>
</table>
| /images/abr_btm_nrm_rt_08\gi
| Protocol Description:       |

**Step 3**  Enter a value in the fields for Index and Protocol Description.

For information about appropriate values for the Index and Protocol Description fields, see Creating a URL-based Application, page 3-64.

**Step 4**  Click **Apply**.
Viewing Voice Data

You can use the NAM Traffic Analyzer to view troubleshooting data collected from any enabled voice protocols on the NAM. This allows you to identify potential problems with your voice network.

There are menu items for:

- Viewing the Voice Protocol Overview, page 4-33
- Viewing Known Phones, page 4-35
- Viewing Active Calls, page 4-43

Viewing the Voice Protocol Overview

The Aggregate Statistics table contains basic troubleshooting information for the voice protocols implemented in your network.

Procedure

1. Click the Monitor tab.
2. Click Voice.

The Aggregate Statistics Table (Table 4-13) is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol</td>
<td>Name of the voice protocol.</td>
</tr>
<tr>
<td>Calls Monitored</td>
<td>Number of calls monitored.</td>
</tr>
<tr>
<td>Avg Pkt Loss (%)</td>
<td>Average packet loss for all calls.</td>
</tr>
<tr>
<td>Avg Jitter (ms)</td>
<td>Average jitter for all calls.</td>
</tr>
<tr>
<td>Worst Pkt Loss (%)</td>
<td>Worst packet loss percentage monitored.</td>
</tr>
<tr>
<td>Worst Jitter (ms)</td>
<td>Worst jitter monitored.</td>
</tr>
</tbody>
</table>
Displaying Protocol Details From the Aggregate Statistics Table

To view the voice protocol details window, select the radio button of the protocol name and click **Details**, or click the protocol name.

The **Worst Quality Calls Tables** (Table 4-14) are displayed:

- Packet Loss - Worst Quality Calls Table—Displays the TopN worst calls based on packet loss.
- Jitter - Worst Quality Calls Table—Displays the TopN worst calls based on jitter

To clear the information in the tables, click **Clear**.

### Table 4-14  **Worst Quality Calls Tables**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caller Number</td>
<td>Number of the caller phone.</td>
</tr>
<tr>
<td>Called Number</td>
<td>Number of the called phone.</td>
</tr>
<tr>
<td>Caller</td>
<td>Alias name or MGCP endpoint ID of the calling party phone.</td>
</tr>
<tr>
<td>Called</td>
<td>Alias name or MGCP endpoint ID of the called party phone.</td>
</tr>
<tr>
<td>Time of Call</td>
<td>Time the call was placed.</td>
</tr>
<tr>
<td>Caller IP Address</td>
<td>IP address of the caller.</td>
</tr>
<tr>
<td>Called IP Address</td>
<td>IP address of the called phone.</td>
</tr>
<tr>
<td>% Packet Loss</td>
<td>Percentage of packets lost on the call.</td>
</tr>
<tr>
<td>Jitter</td>
<td>Amount of jitter on the call.</td>
</tr>
</tbody>
</table>
Related Topics

- Viewing the Voice Protocol Overview
- Viewing Known Phones
- Viewing Active Calls

Viewing Known Phones

You can view basic and detailed information on all known monitored phones in your network.

If you are using MGCP gateways in your network, the MGCP endpoint and endpoint IDs represent the ports of the MGCP gateway that are used to establish connections with the specified call.

Procedure

Step 1  Click the Monitor tab.
Step 2  Click Voice.

The Aggregate Statistics table is displayed.

Step 3  In the contents, click Known Phones.

The Phones Table (Table 4-15) is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone</td>
<td>Phone number or MGCP endpoint.</td>
</tr>
<tr>
<td>IP Address</td>
<td>IP address of the phone.</td>
</tr>
<tr>
<td>Name</td>
<td>Alias name or MGCP endpoint ID of the phone.</td>
</tr>
<tr>
<td>Calls Monitored</td>
<td>Number of calls monitored and percentage of total calls.</td>
</tr>
<tr>
<td>Avg Pkt Loss %</td>
<td>Average packets loss on the phone.</td>
</tr>
<tr>
<td>Avg Jitter</td>
<td>Average jitter on the phone (in milliseconds).</td>
</tr>
</tbody>
</table>

Step 4  Select the protocol variable to filter from the list.
Step 5 Enter the variable to filter in the text box, then click Filter.

The specified variable is displayed.

Tip To turn off auto refresh, deselect the Auto Refresh check box.

Related Topics
- Displaying Phone Details From the Known Phones Table
- Viewing the Voice Protocol Overview
- Viewing Active Calls

Displaying Phone Details From the Known Phones Table

To view details for a specific phone, click on the phone number in the Phone column of the Phones table. The Phone Details, Aggregate Statistics, and Last N Calls tables (Table 4-16 through Table 4-18) are displayed.

Table 4-16 Phone Details

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone</td>
<td>Phone number.</td>
</tr>
<tr>
<td>Name</td>
<td>The alias name or MGCP endpoint ID of the phone.</td>
</tr>
<tr>
<td>IP Address</td>
<td>IP address of the phone.</td>
</tr>
<tr>
<td>Switch Port</td>
<td>Physical interface switch port that the phone is attached to.</td>
</tr>
<tr>
<td>Protocol</td>
<td>The protocol that the phone is learned from.</td>
</tr>
</tbody>
</table>
Table 4-17  Aggregate Statistics

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calls Monitored</td>
<td>Number of calls monitored since Call Monitoring was last enabled.</td>
</tr>
<tr>
<td>Average Packet Loss (%)</td>
<td>Average percent packet loss over all monitored calls.</td>
</tr>
<tr>
<td>Average Jitter (msec)</td>
<td>Average jitter over all monitored calls.</td>
</tr>
<tr>
<td>Worst Packet Loss (%)</td>
<td>Worst percent packet loss from all monitored calls.</td>
</tr>
<tr>
<td>Worst Jitter (msec)</td>
<td>Worse amount of jitter from all monitored calls.</td>
</tr>
</tbody>
</table>

Table 4-18  Last N Calls

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caller Number</td>
<td>Phone number of the caller.</td>
</tr>
<tr>
<td>Called Number</td>
<td>Phone number of the called phone.</td>
</tr>
<tr>
<td>Caller</td>
<td>Alias name or MGCP endpoint ID of the calling party.</td>
</tr>
<tr>
<td>Called</td>
<td>Alias name or MGCP endpoint ID of the called party.</td>
</tr>
<tr>
<td>Time of Call</td>
<td>Time the call was established.</td>
</tr>
<tr>
<td>Caller IP Address</td>
<td>IP address of the connected caller.</td>
</tr>
<tr>
<td>Called IP Address</td>
<td>IP address of the called party.</td>
</tr>
<tr>
<td>% Pkt Loss</td>
<td>Percentage of packets lost on the call.</td>
</tr>
<tr>
<td>Jitter (msec)</td>
<td>Jitter on the call.</td>
</tr>
<tr>
<td></td>
<td>For SCCP, the jitter value is reported by the phone.</td>
</tr>
<tr>
<td></td>
<td>For H.323, it is the average inter-arrival jitter calculated as the sum of</td>
</tr>
<tr>
<td></td>
<td>all detected RTCP receiver reports inter-arrival jitter, divided by the</td>
</tr>
<tr>
<td></td>
<td>number of detected RTCP receiver reports.</td>
</tr>
</tbody>
</table>

Related Topics

- Displaying Call Details From the Last N Calls Table
- Viewing Known Phones
• Viewing the Voice Protocol Overview
• Viewing Active Calls

Displaying Call Details From the Last N Calls Table

To view the details of a specific call from the Last N Calls Table, select the radio button, then click Details.

For phones using SCCP, the SCCP Call Detail Table (Table 4-19) is displayed.
For phones using H.323, the H.323 Call Detail Table (Table 4-20) is displayed.
For phones using MGCP, the MGCP Call Detail Table (Table 4-21) is displayed.

Note The title of the SCCP Call Detail Table shows whether the data is collected from the calling or called party.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>Phone numbers of the calling and called parties.</td>
</tr>
<tr>
<td>IP Address</td>
<td>IP addresses of the calling and called parties.</td>
</tr>
<tr>
<td>Call Reference</td>
<td>The call reference field in the call setup messages.</td>
</tr>
<tr>
<td>Owner</td>
<td>Alias name of the calling and called party phones.</td>
</tr>
<tr>
<td>Call State</td>
<td>Current state of the call—setup, hold, connect, or ended.</td>
</tr>
<tr>
<td>RTP Port</td>
<td>Port that the phone is listening on for the call.</td>
</tr>
<tr>
<td>Line Instance</td>
<td>Line of the call (line 1, line 2, etc.).</td>
</tr>
<tr>
<td>Conference ID</td>
<td>The conference field in the call setup messages.</td>
</tr>
<tr>
<td>Pass Thru Party ID</td>
<td>Internal field used by Call Manager to correlate call set-up messages.</td>
</tr>
<tr>
<td>RTP Sampling Period</td>
<td>Period (in msec) at which an RTP frame is sampled for transmission.</td>
</tr>
<tr>
<td>Payload Type</td>
<td>The codec of the RTP stream.</td>
</tr>
<tr>
<td>RTP Pre Value</td>
<td>Initial sequence-number value of the RTP stream.</td>
</tr>
<tr>
<td>Silence Sup</td>
<td>Indicates whether silence suppression is on or off.</td>
</tr>
<tr>
<td>Max Frames per Pkt</td>
<td>The maximum number of RTP frames in an RTP packet.</td>
</tr>
</tbody>
</table>
Table 4-19  SCCP Call Detail Table (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G.723 Bit Rate</td>
<td>Bit rate in kilobits per second for G.723 payload types (codec).</td>
</tr>
<tr>
<td>Start Time</td>
<td>Day, date, and time the call was started.</td>
</tr>
<tr>
<td>End Time</td>
<td>Day, date, and time the call was ended.</td>
</tr>
<tr>
<td>Packets Sent</td>
<td>Number of packets sent during the call.</td>
</tr>
<tr>
<td>Packets Received</td>
<td>Number of packets received during the call.</td>
</tr>
<tr>
<td>Octets Sent</td>
<td>Number of octets sent during the call.</td>
</tr>
<tr>
<td>Octets Received</td>
<td>Number of octets received during the call.</td>
</tr>
<tr>
<td>Packet Loss (%)</td>
<td>Percentage of packets lost during the call.</td>
</tr>
<tr>
<td>Jitter (msec)</td>
<td>Amount of jitter monitored during the call.</td>
</tr>
<tr>
<td>Switch Port</td>
<td>Physical interface switch port that the phone is attached to.</td>
</tr>
</tbody>
</table>

Table 4-20  H.323 Call Detail Table

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>Phone numbers of the calling and called parties.</td>
</tr>
<tr>
<td>Q.931 IP Address</td>
<td>For the calling party, the source IP address of the Q.931 setup message. For the called party, the source IP address of the Q.931 connect message.</td>
</tr>
<tr>
<td>Q.931 Port</td>
<td>Port that the phone is using to send Q.931 messages.</td>
</tr>
<tr>
<td>Alias</td>
<td>Alias name of the calling and called phones.</td>
</tr>
<tr>
<td>Call State</td>
<td>State of the call—setup, connect, or ended.</td>
</tr>
<tr>
<td>Call Status</td>
<td>Good—Jitter and/or packet loss do not pass threshold values.</td>
</tr>
<tr>
<td></td>
<td>Acceptable—Jitter and/or packet loss pass threshold values but are within 10% of exceeding the values.</td>
</tr>
<tr>
<td></td>
<td>Bad—Jitter and/or packet loss exceed the threshold values by more than 10%.</td>
</tr>
<tr>
<td>Call Reference</td>
<td>The call reference field in the call setup messages.</td>
</tr>
<tr>
<td>Call Id</td>
<td>The call ID field in the call setup messages.</td>
</tr>
<tr>
<td>Conference Id</td>
<td>The conference ID field in the call setup messages.</td>
</tr>
<tr>
<td>Conference Goal</td>
<td>The conference action of the caller—Create, Invite, or Join.</td>
</tr>
</tbody>
</table>
### Table 4-20  H.323 Call Detail Table (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Start</td>
<td>True or false. Indicates if the call used faststart sequence to set-up the call.</td>
</tr>
<tr>
<td>Tunneling</td>
<td>True or false. Indicates if the call used tunneling to set-up the medium (RTP) channel.</td>
</tr>
<tr>
<td>Call Type</td>
<td>The type of call—Point-to-Point, N-to-One, or One-to-N.</td>
</tr>
<tr>
<td>Product Id</td>
<td>The product string in the call setup message for the calling and called parties.</td>
</tr>
<tr>
<td>Version Id</td>
<td>The version of the product for the calling and called parties.</td>
</tr>
<tr>
<td>Session Id</td>
<td>The session number of the media (RTP) channel for the calling and called parties.</td>
</tr>
<tr>
<td>Logical Channel Number</td>
<td>The logical channel number value of the media (RTP) channel for the calling and called parties.</td>
</tr>
<tr>
<td>H.245 IP Address</td>
<td>The IP address where the calling party and called party send H.245 messages in negotiating the call.</td>
</tr>
<tr>
<td>H.245 Port</td>
<td>The port where the calling and called parties send H.245 messages when negotiating the call.</td>
</tr>
<tr>
<td>RTP IP Address</td>
<td>IP address where the calling and called parties send the RTP packets when negotiating the call.</td>
</tr>
<tr>
<td>RTP Port</td>
<td>Port where the calling and called parties send the RTP packets when negotiating the call.</td>
</tr>
<tr>
<td>Codec</td>
<td>The encoding or decoding method used to convert analog signals to digital.</td>
</tr>
<tr>
<td>RTCP IP Address</td>
<td>IP address where the RTCP report is sent to.</td>
</tr>
<tr>
<td>RTCP Port</td>
<td>Port where the RTCP report is sent to.</td>
</tr>
<tr>
<td>Start Time</td>
<td>Day, date, and time the call started.</td>
</tr>
<tr>
<td>End Time</td>
<td>Day, date, and time the call ended.</td>
</tr>
<tr>
<td>Synch Source</td>
<td>Synchronization source value that represents the calling and called party in RTP packets.</td>
</tr>
<tr>
<td>Packets Sent</td>
<td>The cumulative number of packets sent on the call, as reported in the last RTCP sender report.</td>
</tr>
<tr>
<td>Octets Sent</td>
<td>The cumulative number of octets sent on the call, as reported in the last RTCP sender report.</td>
</tr>
<tr>
<td>Packets Lost</td>
<td>The cumulative number of packets lost on the call, as reported in the last RTCP sender report.</td>
</tr>
</tbody>
</table>
Note Because of the nature of the MGCP protocol, calls that were monitored by the NAM might have the caller and called party information reversed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Packet Loss (%)</td>
<td>The average fraction loss calculated as the sum of fraction loss reported in detected RTCP receiver reports, divided by the number of detected RTCP receiver reports.</td>
</tr>
<tr>
<td>Average Jitter (msec)</td>
<td>The average inter-arrival jitter calculated as the sum of all detected RTCP receiver reports inter-arrival jitter, divided by the number of detected RTCP receiver reports.</td>
</tr>
</tbody>
</table>

### Table 4-21  MGCP Call Detail Table

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Alias name or MGCP endpoint ID.</td>
</tr>
<tr>
<td>Note</td>
<td>This information might appear in a separate Q.931 table above the MGCP Call Detail table.</td>
</tr>
<tr>
<td>Phone Number</td>
<td>Phone number of the calling and called parties.</td>
</tr>
<tr>
<td>Note</td>
<td>This information might appear in a separate Q.931 table above the MGCP Call Detail table.</td>
</tr>
<tr>
<td>Phone Number</td>
<td>Because of the nature of the protocol, the phone number is sometimes detected with errors.</td>
</tr>
<tr>
<td>Confidence</td>
<td>• High—The detection of the phone number is not likely to have a mistake.</td>
</tr>
<tr>
<td></td>
<td>• Low—The detection of the phone number is subject to error due to the nature of the MGCP protocol.</td>
</tr>
<tr>
<td>Note</td>
<td>This information might appear in a separate Q.931 table above the MGCP Call Detail table.</td>
</tr>
<tr>
<td>RTP Address</td>
<td>Receiving RTP address of the calling and called parties.</td>
</tr>
<tr>
<td>Endpoint ID</td>
<td>MGCP endpoint ID of the calling and called parties.</td>
</tr>
<tr>
<td>Agent Address</td>
<td>IP address of the MGCP call agent.</td>
</tr>
<tr>
<td>Gateway Address</td>
<td>Network address of the MGCP gateway.</td>
</tr>
</tbody>
</table>
### Table 4-21  MGCP Call Detail Table (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call State</td>
<td>Setup—The call is setting up.</td>
</tr>
<tr>
<td></td>
<td>Connected—The call is fully established.</td>
</tr>
<tr>
<td></td>
<td>Ended—The call has ended.</td>
</tr>
<tr>
<td>Call ID</td>
<td>MGCP identification number of the call.</td>
</tr>
<tr>
<td>RTP Port</td>
<td>Receiving RTP port of the calling and called parties.</td>
</tr>
<tr>
<td>Connection ID</td>
<td>MGCP connection identification number of the call.</td>
</tr>
<tr>
<td>RTP Sampling Period</td>
<td>Period at which the RTP packet is sampled for transmission.</td>
</tr>
<tr>
<td>Silence Sup</td>
<td>On—Silence suppression option for the call is turned on.</td>
</tr>
<tr>
<td></td>
<td>Off—Silence suppression option for the call is turned off.</td>
</tr>
<tr>
<td>Codec</td>
<td>Codec of the RTP streams.</td>
</tr>
<tr>
<td>Start Time</td>
<td>Time the call is fully established.</td>
</tr>
<tr>
<td>End Time</td>
<td>Time the call ended.</td>
</tr>
<tr>
<td>Packet Sent</td>
<td>Number of RTP packets sent by the calling and called parties as reported in MGCP connection parameters.</td>
</tr>
<tr>
<td>Packets Received</td>
<td>Number of RTP packets received by the calling and called parties as reported in connection parameters.</td>
</tr>
<tr>
<td>Octets Sent</td>
<td>Number of RTP octets sent between the calling and called parties as reported in MGCP connection parameters.</td>
</tr>
<tr>
<td>Octets Received</td>
<td>Number of RTP octets received between the calling and called parties as reported in MGCP connection parameters.</td>
</tr>
<tr>
<td>Packet Loss (%)</td>
<td>Calculated percent loss based on the number of packet loss as reported in MGCP connection parameters.</td>
</tr>
<tr>
<td>Jitter</td>
<td>Jitter of the call as reported in MGCP connection parameters.</td>
</tr>
</tbody>
</table>

**Related Topics**

- Viewing Known Phones
- Viewing the Voice Protocol Overview
- Viewing Active Calls
Viewing Active Calls

The Active Calls table displays information for all calls currently being monitored.

Procedure

Step 1  Click the Monitor tab.
Step 2  Click Voice.  
The Aggregate Statistics table is displayed.
Step 3  In the contents, click Active Calls.  
The Active Calls Table (Table 4-22) is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caller Number</td>
<td>Number of the phone placing the call.</td>
</tr>
<tr>
<td>Called Number</td>
<td>Number of the phone receiving the call.</td>
</tr>
<tr>
<td>Caller</td>
<td>Alias name or MGCP endpoint ID of the calling party phone.</td>
</tr>
<tr>
<td>Called</td>
<td>Alias name or MGCP endpoint ID of the called party phone.</td>
</tr>
<tr>
<td>Time of Call</td>
<td>Time the call was placed.</td>
</tr>
<tr>
<td>Caller IP Address</td>
<td>IP address of the phone making the call.</td>
</tr>
<tr>
<td>Called IP Address</td>
<td>IP address of the phone receiving the call.</td>
</tr>
</tbody>
</table>

Step 4  Select the protocol variable to filter from the list.
Step 5  Enter the variable to filter in the text box, then click Filter.
The specified variable is displayed.
Step 6  To clear the Active Calls table, click Clear.
Tip
To turn off auto refresh, deselect the Auto Refresh check box.

Related Topics
- Displaying Call Details From the Active Calls Table
- Viewing the Voice Protocol Overview
- Viewing Known Phones

Displaying Call Details From the Active Calls Table

To display details of a specific call from the Active Calls table, click the phone number in the Caller Number column. The Active Call Detail window is displayed.

For phones using SCCP, the SCCP Call Detail Table (Table 4-19) is shown.
For phones using H.323, the H.323 Call Detail Table (Table 4-20) is shown.
For phones using MGCP, the MGCP Call Detail Table (Table 4-21) is shown.

Related Topics
- Viewing the Voice Protocol Overview
- Viewing Known Phones
- Viewing Active Calls

Monitoring Hosts Data

You can view results from any active hosts collections in the RMON1 and RMON2 host tables on the NAM.

Procedure

Step 1  Click the Monitor tab.
Step 2  Click Hosts.
The Network Hosts table is displayed with three radio buttons above it. You can select a radio button for:

- Viewing the Network Hosts Current Rates Table, page 4-45
- Viewing the Network Hosts Top N Chart, page 4-50
- Viewing the Network Hosts Cumulative Data Table, page 4-52

**Step 3**

To view the data based on the host MAC addresses, click **MAC Stations** in the contents.

---

**Note**

MAC statistics are not available on NM-NAM devices.

The Mac Stations table is displayed with three radio buttons above it. You can select a radio button for:

- Viewing the MAC Stations Current Rates Table, page 4-53
- Viewing the MAC Stations Top N Chart, page 4-55
- Viewing the MAC Stations Cumulative Data Table, page 4-57

---

**Viewing the Network Hosts Current Rates Table**

The Network Current Rates table allows you to view the various data collected for each host. The information displayed represents the data collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

**Procedure**

**Step 1**

In the contents, click **Network Hosts**.

**Step 2**

Click the Current Rates radio button.

The **Network Hosts Current Rates Table (Table 4-23)** is displayed.
Step 3  Select a data source to monitor from the Data Source list.

Step 4  Enter an address to filter in the Address text box, then click **Filter**. The specified address is displayed.

### Tip
- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

**Related Topics**
- Viewing Network Host Details
- Capturing Network Host Data from the Network Host Table
- Viewing Real-Time Traffic Statistics from the Hosts Table
- Viewing Reports from the Network Hosts Table
- Viewing the Network Hosts Cumulative Data Table
- Viewing the Network Hosts Top N Chart

### Table 4-23  Network Hosts Current Rates Table

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Network address of the host.</td>
</tr>
<tr>
<td>Via</td>
<td>Protocol being monitored.</td>
</tr>
<tr>
<td>In Packets/s</td>
<td>Number of input packets collected per second.</td>
</tr>
<tr>
<td>Out Packets/s</td>
<td>Number of output packets collected per second.</td>
</tr>
<tr>
<td>In Bytes/s</td>
<td>Number of input bytes collected per second.</td>
</tr>
<tr>
<td>Out Bytes/s</td>
<td>Number of output bytes collected per second.</td>
</tr>
<tr>
<td>Non Unicast/s</td>
<td>Number of non unicast broadcast packets collected per second.</td>
</tr>
</tbody>
</table>
Viewing Network Host Details

To view details for a specific host, click on the address in the Address column of the Network Hosts table. The Network Hosts Detail Window (Figure 4-15) is displayed.

- **Host Details**—Displays detailed information for the host.
- **Application Protocol Usage Chart**—Displays the application protocol usage for the host in graphical format.
- **Conversations From Known Protocols**—Displays known conversations and statistics *from* the specified host to other hosts on the network using known protocols.
• Conversations To Known Protocols—Displays known conversations and statistics to the specified host from other hosts on the network using known protocols.

**Note**
To view the full protocol name, move the cursor over the protocol name in the Application Protocol Usage chart.

**Tips**
To view the full protocol name, move the cursor over the protocol name in the Application Protocol Usage chart.

**Related Topics**
• Capturing Network Host Data from the Network Host Table
• Viewing Real-Time Traffic Statistics from the Hosts Table
• Viewing Reports from the Network Hosts Table
• Viewing the Network Hosts Current Rates Table
• Viewing the Network Hosts Cumulative Data Table
• Viewing the Network Hosts Top N Chart

**Capturing Network Host Data from the Network Host Table**

You can capture data for a specific host directly from the Network Host table.

Select the host from the table, then click **Capture**. The Packet Browser is displayed. For more information on viewing packets using the Packet Browser, see the “Viewing Detailed Protocol Decode Information” section on page 6-18.

If a capture is already running, a message window is displayed. Click **Yes** to stop the current capture or **No** to disregard your selection.

The Capture button is available only for a subset of reported protocols. For protocols such as IP, IPv6, and GRE, you must set up a custom filter. For more information on setting up custom filters, see the “Creating Custom Capture Filters” section on page 6-20.

**Note**
The Capture button is disabled for NetFlow-based data sources.
Related Topics

- Viewing Network Host Details
- Viewing Real-Time Traffic Statistics from the Hosts Table
- Viewing Reports from the Network Hosts Table
- Viewing the Network Hosts Current Rates Table
- Viewing the Network Hosts Cumulative Data Table
- Viewing the Network Hosts Top N Chart

Viewing Real-Time Traffic Statistics from the Hosts Table

You can view real-time traffic statistics in a graphical format for a specific host. Select the host from the table, then click **Real-Time**. The Real-Time Graph (Figure 4-16) is displayed.

**Note**
The Real-Time button is disabled for NetFlow-based data sources.

**Figure 4-16 **Real-Time Graph

![Real-Time Graph](image)

**Related Topics**

- Viewing Network Host Details
• Capturing Network Host Data from the Network Host Table
• Viewing Reports from the Network Hosts Table
• Viewing the Network Hosts Current Rates Table
• Viewing the Network Hosts Cumulative Data Table
• Viewing the Network Hosts Top N Chart

Viewing Reports from the Network Hosts Table

You can view reports directly from the Network Hosts table. Select the host for which to view a report, then click Report. The Basic Reports graph is displayed. If a report is not configured, the Basic Reports screen appears and a new report is created for the selected host and data source.

For more information on viewing and creating reports, see Chapter 5, “Creating and Viewing Reports.”

Related Topics
• Viewing Network Host Details
• Capturing Network Host Data from the Network Host Table
• Viewing Real-Time Traffic Statistics from the Hosts Table
• Viewing the Network Hosts Current Rates Table
• Viewing the Network Hosts Cumulative Data Table
• Viewing the Network Hosts Top N Chart

Viewing the Network Hosts Top N Chart

The Network Hosts Top N Chart allows you to various data for the TopN hosts in a graphical format. The information displayed represents the data collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Procedure

Step 1 In the contents, click Network Hosts.
Step 2  Click the TopN Chart radio button.

The **Top N Network Hosts Chart** (Figure 4-17) is displayed.

*Figure 4-17  Top N Network Hosts Chart*

<table>
<thead>
<tr>
<th>1</th>
<th>Data Source list.</th>
<th>3</th>
<th>Top N network host addresses.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Variable list.</td>
<td>4</td>
<td>Number of packets/bytes input/output per second for each Top N host.</td>
</tr>
</tbody>
</table>

Step 3  Select the data source to monitor from the Data Source list.

Step 4  Select one of the following from the Sort Option list:

- In Pkts—Displays the number of input packets.
- Out Pkts—Displays the number of output packets.
- In Bytes—Displays the number of input bytes.
- Out Bytes—Displays the number of output bytes.
• Non Unicast Pkts—Displays the number of non-unicast packets.

Tip
To turn off auto refresh, deselect the Auto Refresh check box.

Related Topics
• Viewing the Network Hosts Current Rates Table
• Viewing the Network Hosts Cumulative Data Table
• Viewing the MAC Stations Current Rates Table
• Viewing the MAC Stations Cumulative Data Table
• Viewing the MAC Stations Top N Chart

Viewing the **Network Hosts Cumulative Data Table**

The Network Hosts Cumulative Data Table allows you to view various data collected for each host. The information displayed represents the total data collected since the collection was created or since the NAM was restarted.

**Procedure**

**Step 1**
In the contents, click **Network Hosts**.

**Step 2**
Click the Cumulative Data radio button.

The Network Hosts Cumulative Data Table (Table 4-24) is displayed.

**Table 4-24**  **Network Hosts Cumulative Data Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Network address of the host.</td>
</tr>
<tr>
<td>Via</td>
<td>Protocol being monitored.</td>
</tr>
<tr>
<td>In Pkts</td>
<td>Total number of input packets over the last interval.</td>
</tr>
<tr>
<td>Out Pkts</td>
<td>Total number of output packets over the last interval.</td>
</tr>
</tbody>
</table>
Step 3  Select a data source to monitor from the Data Source list.

Step 4  To view data for a specific address, enter the address in the Address text box, then click **Filter**.

Any matching addresses are displayed.

*Tip*
- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

**Related Topics**
- Viewing Network Host Details
- Capturing Network Host Data from the Network Host Table
- Viewing Real-Time Traffic Statistics from the Hosts Table
- Viewing Reports from the Network Hosts Table
- Viewing the Network Hosts Current Rates Table
- Viewing the Network Hosts Top N Chart

## Viewing the MAC Stations Current Rates Table

*Note*  This section does not apply to NM-NAM devices.
The MAC Stations Current Rates table allows you to view the various data collected for each host. The information displayed represents the data collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

**Procedure**

**Step 1**  
In the contents, click **MAC Stations**.

**Step 2**  
Click the Current Rates Table radio button.

The MAC Stations Table (Table 4-25) is displayed.

**Table 4-25     MAC Stations Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>MAC address of the host.</td>
</tr>
<tr>
<td>In Packets/s</td>
<td>Number of packets received by the host per second.</td>
</tr>
<tr>
<td>Out Packets/s</td>
<td>Number of packets sent by the host per second.</td>
</tr>
<tr>
<td>In Bytes/s</td>
<td>Number of bytes received by the host per second.</td>
</tr>
<tr>
<td>Out Bytes/s</td>
<td>Number of bytes sent by the host per second.</td>
</tr>
<tr>
<td>Broadcasts/s</td>
<td>Number of broadcasts sent by the host per second.</td>
</tr>
<tr>
<td>Multicasts/s</td>
<td>Number of multicasts sent by the host per second.</td>
</tr>
</tbody>
</table>

**Step 3**  
Select a data source to monitor from the Data Source list.

**Step 4**  
Enter an address to filter in the Address text box, then click **Filter**.

The specified address is displayed.

**Tip**

- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.
Related Topics

- Viewing the Network Hosts Current Rates Table
- Viewing the Network Hosts Cumulative Data Table
- Viewing the Network Hosts Top N Chart
- Viewing the MAC Stations Cumulative Data Table
- Viewing the MAC Stations Top N Chart

Viewing the MAC Stations Top N Chart

Note

This section does not apply to NM-NAM devices.

The MAC Stations Top N chart allows you to view the various data collected for each host in a graphical format. The information displayed represents the data collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Procedure

Step 1  In the contents, click MAC Stations.

Step 2  Click the TopN Chart radio button.

The Top N MAC Stations Chart (Figure 4-18) is displayed.
**Step 3** Select the data source to monitor from the Data Source list.

**Step 4** Select one of the following from the Sort Option list:

- In Packets—Displays the number of input packets per second.
- Out Packets—Displays the number of output packets per second.
- In Bytes—Displays the number of input bytes per second.
- Out Packets—Displays the number of input bytes per second.
- Broadcast Packets—Sorts the addresses based on the number of broadcast packets per second.
- Multicast Packets—Sorts the addresses based on the number of multicast packets per second.
To turn off auto refresh, deselect the Auto Refresh check box.

**Related Topics**
- Viewing the Network Hosts Current Rates Table
- Viewing the Network Hosts Cumulative Data Table
- Viewing the Network Hosts Top N Chart
- Viewing the MAC Stations Current Rates Table
- Viewing the MAC Stations Cumulative Data Table

**Viewing the MAC Stations Cumulative Data Table**

**Note**
This section does not apply to NM-NAM devices.

The MAC Stations Cumulative Data Table allows you to view the various data collected for each host. The information displayed represents the total data collected since the collection was created or since the NAM was restarted.

**Procedure**

**Step 1**
In the contents, click **MAC Stations**.

**Step 2**
Click the Cumulative Data radio button.

The **MAC Stations Cumulative Data Table (Table 4-25)** is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>MAC address of the host.</td>
</tr>
<tr>
<td>In Packets</td>
<td>Total number of packets received by the host over the last time interval.</td>
</tr>
<tr>
<td>Out Packets</td>
<td>Total number of packets sent by the host over the last time interval.</td>
</tr>
</tbody>
</table>
Viewing Conversations Data

You can view conversations data collected on the NAM. Conversations data represents the number of packets and bytes collected between two hosts.

### Step 3
Select a data source to monitor from the Data Source list.

### Step 4
Enter an address to filter in the Address text box, then click **Filter**.

The specified address is displayed.

---

**Tip**

- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

**Related Topics**

- Viewing the Network Hosts Current Rates Table
- Viewing the Network Hosts Cumulative Data Table
- Viewing the Network Hosts Top N Chart
- Viewing the MAC Stations Current Rates Table
- Viewing the MAC Stations Top N Chart

---

### Table 4-26  MAC Stations Cumulative Data Table (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Bytes</td>
<td>Total number of bytes received by the host over the last time interval.</td>
</tr>
<tr>
<td>Out Bytes</td>
<td>Total number of bytes sent by the host over the last time interval.</td>
</tr>
<tr>
<td>Broadcasts</td>
<td>Total number of broadcasts sent by the host over the last time interval.</td>
</tr>
<tr>
<td>Multicasts</td>
<td>Total number of multicasts sent by the host.</td>
</tr>
</tbody>
</table>
**Viewing Conversations Data**

**Procedure**

**Step 1**  
Click the Monitor tab.

**Step 2**  
Click **Conversations**.

The Network Hosts Conversations table is displayed with three radio buttons above it. You can select a radio button for:

- Viewing the Network Host Conversations Current Rates Table, page 4-59  
- Viewing the Network Host Conversations Top N Chart, page 4-64  
- Viewing the Network Host Conversations Cumulative Data Table, page 4-66

**Step 3**  
To view the conversations data based on the MAC addresses, click **MAC Stations** in the contents.

**Note**  
MAC statistics are not available on NM-NAM devices.

The MAC Station Conversations table is displayed with three radio buttons above it. You can select a radio button for:

- Viewing the MAC Station Conversations Current Rates Table, page 4-68  
- Viewing the MAC Conversations Top N Chart, page 4-69  
- Viewing the MAC Station Conversations Cumulative Data Table, page 4-71

---

**Viewing the Network Host Conversations Current Rates Table**

The Network Host Conversations Current Rates table allows you to view the number of packets and bytes collected for each host conversation. The data displayed is the number of packets and bytes collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

**Procedure**

**Step 1**  
In the contents, click **Network Hosts**.
Step 2  Click the Current Rates Table radio button.

The Network Host Conversations Current Rates Table (Table 4-27) is displayed.

### Table 4-27  Network Host Conversations Current Rates Table

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Source address of the conversation.</td>
</tr>
<tr>
<td>Via</td>
<td>Network layer protocol over which the hosts are conversing.</td>
</tr>
<tr>
<td>Destination</td>
<td>Destination address of the conversation.</td>
</tr>
<tr>
<td>Packets/s</td>
<td>Number of packets collected per second for the conversation over the last interval.</td>
</tr>
<tr>
<td>Bytes/s</td>
<td>Number of bytes collected per second for the conversation over the last interval.</td>
</tr>
</tbody>
</table>

Step 3  Select the data source to be monitored from the Data Source list.

Step 4  To view data for a specific source or destination, select Source, Destination, or Source or Destination from the list.

Step 5  Enter the address in the text box, then click **Filter**.

Any matching source or destination addresses are displayed.

Tip

- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

Related Topics

- [Viewing Network Host Conversation Details](#)
- [Capturing Network Host Conversation Data from the Network Host Conversations Table](#)
- [Viewing Real-Time Traffic Statistics from the Network Host Conversations Table](#)
Viewing Network Host Conversation Details

To view conversation details for a specific network conversation, click the network address in the Source or Destination column. The following tables are displayed:

- **Host Details**—Displays detailed information for the source or destination host.
- **Application Protocol Usage Chart**—Displays the application protocol usage for the source of destination host in graphical format.
- **Conversations From Known Protocols**—Displays known conversations and statistics from the specified host to other hosts on the network using known protocols.
- **Conversations To Known Protocols**—Displays known conversations and statistics to the specified host from other hosts on the network using known protocols.

**Note**

To view the full protocol name, move the cursor over the protocol name in the Application Protocol Usage chart.

**Related Topics**

- Capturing Network Host Conversation Data from the Network Host Conversations Table
- Viewing Real-Time Traffic Statistics from the Network Host Conversations Table
- Viewing Reports from the Network Host Conversations Table
- Viewing the Network Host Conversations Current Rates Table
- Viewing the Network Host Conversations Cumulative Data Table
- Viewing the Network Host Conversations Top N Chart
Capturing Network Host Conversation Data from the Network Host Conversations Table

You can capture data for a specific network host conversation directly from the Network Host Conversations table.

Select the conversation from the table, then click **Capture**. The Packet Browser is displayed. For more information on viewing packets using the Packet Browser, see the “Viewing Detailed Protocol Decode Information” section on page 6-18.

If a capture is already running, a message window is displayed. Click **Yes** to stop the current capture or **No** to disregard your selection.

The Capture button is available only for a subset of reported protocols. For protocols such as IP, IPv6, and GRE, you must set up a custom filter. For more information on setting up custom filters, see the “Creating Custom Capture Filters” section on page 6-20.

**Note**
The Capture button is disabled for NetFlow-based data sources.

**Related Topics**
- Viewing Network Host Conversation Details
- Viewing Real-Time Traffic Statistics from the Network Host Conversations Table
- Viewing Reports from the Network Host Conversations Table
- Viewing the Network Host Conversations Current Rates Table
- Viewing the Network Host Conversations Cumulative Data Table
- Viewing the Network Host Conversations Top N Chart

Viewing Real-Time Traffic Statistics from the Network Host Conversations Table

You can view real-time traffic statistics in a graphical format for a specific host conversation.

Select the conversation from the table, then click **Real-Time**. The Real-Time Graph (Figure 4-16) is displayed.
The Real-Time button is disabled for NetFlow-based data sources.

**Figure 4-19  Real-Time Graph**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Bytes/s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Related Topics**
- Viewing Network Host Conversation Details
- Capturing Network Host Conversation Data from the Network Host Conversations Table
- Viewing Reports from the Network Host Conversations Table
- Viewing the Network Host Conversations Current Rates Table
- Viewing the Network Host Conversations Cumulative Data Table
- Viewing the Network Host Conversations Top N Chart

**Viewing Reports from the Network Host Conversations Table**

You can view reports directly from the Network Hosts Conversations table. Select the conversation you wish to view a report on, then click **Report**. The Basic Reports graph is displayed. If a report is not configured, the Basic Reports screen appears and a new report is created for the selected host and data source.
For more information on viewing and creating reports, see Chapter 5, “Creating and Viewing Reports.”

**Related Topics**

- Viewing Reports
- Viewing Network Host Conversation Details
- Capturing Network Host Conversation Data from the Network Host Conversations Table
- Viewing Real-Time Traffic Statistics from the Network Host Conversations Table
- Viewing the Network Host Conversations Current Rates Table
- Viewing the Network Host Conversations Cumulative Data Table
- Viewing the Network Host Conversations Top N Chart

### Viewing the Network Host Conversations Top N Chart

The Top N Network Host Conversations Chart allows you to view the number of packets and bytes collected for the Top N network host conversations in a graphical format. The data displayed is the number of packets and bytes collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

**Procedure**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>In the contents, click <strong>Network Hosts</strong>.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Click the TopN Chart radio button.</td>
</tr>
</tbody>
</table>

The **Top N Network Host Conversations Chart** (Figure 4-20) is displayed.
Step 3 Select the data source to be monitored from the Data Source list.

Step 4 Select one of the following from the Variable list:

- Packets—Sorts the addresses based on the number of packets.
- Bytes—Sorts the addresses based on the number of bytes.

Tip To turn off auto refresh, deselect the Auto Refresh check box.
Related Topics
- Viewing the Network Host Conversations Current Rates Table
- Viewing the Network Host Conversations Cumulative Data Table
- Viewing the MAC Station Conversations Current Rates Table
- Viewing the MAC Station Conversations Cumulative Data Table
- Viewing the MAC Conversations Top N Chart

Viewing the Network Host Conversations Cumulative Data Table

The Network Host Conversations Cumulative Data Table allows you to view the number of packets and bytes collected for each host conversation. The data displayed is the total number of packets and bytes collected since the collection was created or since the NAM was restarted.

Procedure

Step 1 In the contents, click Network Hosts.
Step 2 Click the Cumulative Data radio button.

The Network Host Conversations Cumulative Data Table (Table 4-28) is displayed.

Table 4-28 Network Host Conversations Cumulative Data Table

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Source address of the conversation.</td>
</tr>
<tr>
<td>Via</td>
<td>Network layer protocol over which the hosts are conversing.</td>
</tr>
<tr>
<td>Destination</td>
<td>Destination address of the conversation.</td>
</tr>
<tr>
<td>Packets</td>
<td>Total number of packets collected over the last time interval for the conversation.</td>
</tr>
<tr>
<td>Bytes</td>
<td>Total number of bytes collected over the last time interval for the conversation.</td>
</tr>
</tbody>
</table>

Step 3 Select a data source to monitor from the Data Source list.
Step 4  Enter an address to filter in the Address text box, then click **Filter**. The specified address is displayed.

Step 5  To refresh the table, click **Refresh**.

---

**Tip**

To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

**Related Topics**

- Viewing Network Host Conversation Details
- Capturing Network Host Conversation Data from the Network Host Conversations Table
- Viewing Real-Time Traffic Statistics from the Network Host Conversations Table
- Viewing Reports from the Network Host Conversations Table
- Viewing the Network Host Conversations Current Rates Table
- Viewing the Network Host Conversations Top N Chart

**Viewing Network Host Conversation Details**

To view conversation details for a specific network conversation, click the network address in the Source or Destination column. The following tables are displayed:

- **Host Details**—Displays detailed information for the source or destination host.
- **Application Protocol Usage Chart**—Displays the application protocol usage for the source of destination host in graphical format.
- **Conversations From Known Protocols**—Displays known conversations and statistics from the specified host to other hosts on the network using known protocols.
Conversations To Known Protocols—Displays known conversations and statistics to the specified host from other hosts on the network using known protocols.

Viewing the MAC Station Conversations Current Rates Table

Note
This section does not apply to NM-NAM devices.

The MAC Station Conversations Current Rates table allows you to view the number of packets and bytes collected for each host conversation. The data displayed is the number of packets and bytes collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Procedure

Step 1
In the contents, click MAC Stations.

Step 2
Click the Current Rates Table radio button.

The MAC Station Conversations Current Rates Table (Table 4-29) is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Source MAC address of the conversation.</td>
</tr>
<tr>
<td>Destination</td>
<td>Destination MAC address of the conversation.</td>
</tr>
<tr>
<td>Packets/s</td>
<td>Number of packets collected per second for the conversation over the last interval.</td>
</tr>
<tr>
<td>Bytes/s</td>
<td>Number of bytes collected per second for the conversation over the last interval.</td>
</tr>
<tr>
<td>Errors/s</td>
<td>Number of errors collected per second for the conversation over the last interval.</td>
</tr>
</tbody>
</table>

Step 3
Select the data source to be monitored from the Data Source list.
Step 4  To view data for a specific address, enter the full or partial MAC address in the Address text box, then click Filter. Any matching addresses are displayed.

Tip  To turn off auto refresh, deselect the Auto Refresh check box.

Related Topics
- Viewing the Network Host Conversations Current Rates Table
- Viewing the Network Host Conversations Cumulative Data Table
- Viewing the Network Host Conversations Top N Chart
- Viewing the MAC Station Conversations Cumulative Data Table
- Viewing the MAC Conversations Top N Chart

Viewing the MAC Conversations Top N Chart

Note  This section does not apply to NM-NAM devices.

The Top N MAC Station Conversations Chart allows you to view the number of packets and bytes collected for the Top N MAC station conversations in a graphical format. The data displayed is the number of packets and bytes collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Procedure
Step 1  In the contents, click **MAC Stations**.

Step 2  Click the TopN Chart radio button.

The Top N MAC Station Conversations Chart (Figure 4-21) is displayed.

**Figure 4-21  Top N MAC Station Conversations Chart**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Data Source list.</td>
<td>4</td>
<td>Top N destination MAC addresses.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Variable list.</td>
<td>5</td>
<td>Number of packets, bytes, or errors collected per second.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Top N source MAC addresses.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Step 3  Select the data source to be monitored from the Data Source list.

Step 4  Select one of the following from the Variable list:
- Packets—Displays the number of packets.
- Bytes—Displays the number of bytes.
- Errors—Displays the number of errors.

Tip  To turn off auto refresh, deselect the Auto Refresh check box.

Related Topics
- Viewing the Network Host Conversations Current Rates Table
- Viewing the Network Host Conversations Cumulative Data Table
- Viewing the Network Host Conversations Top N Chart
- Viewing the MAC Station Conversations Current Rates Table
- Viewing the MAC Station Conversations Cumulative Data Table

**Viewing the MAC Station Conversations Cumulative Data Table**

Note  This section does not apply to NM-NAM devices.

The MAC Station Conversations Cumulative Data Table allows you to view the number of packets and bytes collected for each MAC station conversation. The data displayed is the total number of packets and bytes collected since the collection was created or since the NAM was restarted.

Procedure

Step 1  In the contents, click MAC Stations.

Step 2  Click the Cumulative Data radio button.
The **MAC Station Conversations Cumulative Data Table** (Table 4-30) is displayed.

**Table 4-30  MAC Station Conversations Cumulative Data Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Source MAC address of the conversation.</td>
</tr>
<tr>
<td>Destination</td>
<td>Destination MAC address of the conversation.</td>
</tr>
<tr>
<td>Pkts</td>
<td>Total number of packets collected over the last time interval for the conversation.</td>
</tr>
<tr>
<td>Bytes</td>
<td>Total number of bytes collected over the last time interval for the conversation.</td>
</tr>
<tr>
<td>Errors</td>
<td>Total number of errors collected over the last time interval for the conversation.</td>
</tr>
</tbody>
</table>

**Step 3** Select the data source from the Data Source list.

**Step 4** Enter an address to filter in the Address text box, then click **Filter**. The specified address is displayed.

**Step 5** To refresh the table, click **Refresh**.

**Tip** To turn off auto refresh, deselect the Auto Refresh check box.

**Related Topics**
- Viewing the Network Host Conversations Current Rates Table
- Viewing the Network Host Conversations Cumulative Data Table
- Viewing the Network Host Conversations Top N Chart
- Viewing the MAC Station Conversations Current Rates Table
- Viewing the MAC Conversations Top N Chart
Viewing VLAN Data

Note

This section does not apply to NM-NAM devices.

You can view VLAN traffic statistics or VLAN priority (COS) statistics collected on the NAM. Supervisor engine module collections are done independent of any collections done on the NAM.

Note

Supervisor engine module-based collections require Supervisor II engine module or later on your switch.

Procedure

Step 1
Click the Monitor tab.

Step 2
Click VLAN.

The VLAN Traffic Statistics table is displayed with three radio buttons above it. You can select a radio button for:

- Viewing the VLAN Traffic Statistics Current Rates Table, page 4-74.
- Viewing the VLAN Traffic Statistics Top N Chart, page 4-75.
- Viewing VLAN Traffic Statistics Cumulative Data Table, page 4-77.

Step 3
To view the VLAN data based on VLAN priority (COS) statistics, click VLAN Priority (COS) Statistics in the contents.

The VLAN Priority (COS) Statistics table is displayed with three radio buttons above it. You can select a radio button for:

- Viewing the VLAN Priority (COS) Statistics Current Rates Table, page 4-78.
- Viewing the VLAN Priority (COS) Statistics Top N Chart, page 4-80.
- Viewing the VLAN Priority (COS) Statistics Cumulative Data Table, page 4-81.
Viewing the VLAN Traffic Statistics Current Rates Table

Note

This section does not apply to NM-NAM devices.

The VLAN Traffic Statistics Current Rates table allows you to view various data collected for each VLAN ID. The information displayed represents the data collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

To view the VLAN Traffic Statistics Current Rates table, click the Current Rates radio button.

The VLAN Traffic Statistics Table (Table 4-31) is displayed.

Table 4-31  VLAN Traffic Statistics Table

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLAN ID</td>
<td>VLAN ID number.</td>
</tr>
<tr>
<td>Packets/s</td>
<td>Number of packets collected per second over the last time interval.</td>
</tr>
<tr>
<td>Bytes/s</td>
<td>Number of bytes collected per second over the last time interval.</td>
</tr>
<tr>
<td>Non-Unicast Packets/s</td>
<td>Number of non-unicast packets collected per second over the last time interval.</td>
</tr>
<tr>
<td>Non-Unicast Bytes/s</td>
<td>Number of non-unicast bytes collected per second over the last time interval.</td>
</tr>
</tbody>
</table>

Tip

- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

Related Topics

- Viewing Reports from the VLAN Traffic Statistics Table
Viewing VLAN Data

- Viewing VLAN Traffic Statistics Cumulative Data Table
- Viewing the VLAN Traffic Statistics Top N Chart
- Viewing the VLAN Priority (COS) Statistics Current Rates Table
- Viewing the VLAN Priority (COS) Statistics Cumulative Data Table
- Viewing the VLAN Priority (COS) Statistics Top N Chart

Viewing Reports from the VLAN Traffic Statistics Table

You can view reports directly from the VLAN Traffic Statistics table. Select the VLAN ID you wish to view a report on, then click Report. The Basic Reports graph is displayed. If a report is not configured, the Basic Reports screen appears and a new report is created for the selected VLAN and data source.

For more information on viewing and creating reports, see Chapter 5, “Creating and Viewing Reports.”

Related Topics
- Viewing the VLAN Traffic Statistics Current Rates Table
- Viewing VLAN Traffic Statistics Cumulative Data Table
- Viewing the VLAN Traffic Statistics Top N Chart
- Viewing the VLAN Priority (COS) Statistics Current Rates Table
- Viewing the VLAN Priority (COS) Statistics Cumulative Data Table
- Viewing the VLAN Priority (COS) Statistics Top N Chart

Viewing the VLAN Traffic Statistics Top N Chart

Note
This section does not apply to NM-NAM devices.

The Top N VLAN Traffic Statistics Chart allows you to view the various data collected for the top N VLAN IDs in a graphical format. The information displayed represents the data collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.
**Procedure**

**Step 1**
Click the TopN Chart radio button.

The Top N VLAN Traffic Statistics Chart (Figure 4-22) is displayed.

*Figure 4-22 Top N VLAN Traffic Statistics Chart*

1. Data source list.
2. Variable list.
3. Top N VLAN IDs.
4. Number of packets/bytes collected per second.

**Step 2**
Select the data source from the Data Source list.

**Step 3**
Select one of the following from the Variable list:

- Total Packets—Displays the number of total packets.
- Total Bytes—Displays the number of total bytes.
- Non-unicast Packets—Displays the number of non-unicast packets.
• Non-unicast Bytes—Displays the number of non-unicast bytes.

Tip
To turn off auto refresh, deselect the Auto Refresh check box.

Related Topics
• Viewing the VLAN Traffic Statistics Current Rates Table
• Viewing VLAN Traffic Statistics Cumulative Data Table
• Viewing the VLAN Priority (COS) Statistics Current Rates Table
• Viewing the VLAN Priority (COS) Statistics Cumulative Data Table
• Viewing the VLAN Priority (COS) Statistics Top N Chart

Viewing VLAN Traffic Statistics Cumulative Data Table

Note
This section does not apply to NM-NAM devices.

The VLAN Traffic Statistics Cumulative Data table allows you to view various data collected for each VLAN ID. The information displayed represents the total data collected since the collection was created or since the NAM was restarted.

To view the VLAN Traffic Statistics Cumulative Data table, click the Cumulative Data Table radio button.

The VLAN Traffic Statistics Cumulative Data Table (Table 4-32) is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLAN ID</td>
<td>VLAN ID number.</td>
</tr>
<tr>
<td>Packets</td>
<td>Total number of packets collected over the last time interval.</td>
</tr>
<tr>
<td>Bytes</td>
<td>Total number of bytes collected over the last time interval.</td>
</tr>
</tbody>
</table>
Table 4-32  VLAN Traffic Statistics Cumulative Data Table (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Unicast Packets</td>
<td>Total number of non-unicast packets collected over the last time interval.</td>
</tr>
<tr>
<td>Non-Unicast Bytes</td>
<td>Total number of non-unicast bytes collected over the last time interval.</td>
</tr>
</tbody>
</table>

Tip

To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

Related Topics

- Viewing Reports from the VLAN Traffic Statistics Table
- Viewing the VLAN Traffic Statistics Current Rates Table
- Viewing the VLAN Traffic Statistics Top N Chart
- Viewing the VLAN Priority (COS) Statistics Current Rates Table
- Viewing the VLAN Priority (COS) Statistics Cumulative Data Table
- Viewing the VLAN Priority (COS) Statistics Top N Chart

Viewing the VLAN Priority (COS) Statistics Current Rates Table

Note

This section does not apply to NM-NAM devices.

The VLAN Priority (COS) Statistics Current Rates table allows you to view user priority distributions per data source. The displayed information represents the data collected each second during the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.
**Procedure**

**Step 1**
In the contents, click **Priority (COS) Statistics**.

The **VLAN Priority (COS) Statistics Current Rates Table** (Table 4-33) is displayed.

**Table 4-33  VLAN Priority (COS) Statistics Current Rates Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority</td>
<td>Value of the three bit user priority field encoded in the Tag Control Information field.</td>
</tr>
<tr>
<td>Packets/s</td>
<td>Number of packets collected on this priority level. Data is the rate per second over the last time interval.</td>
</tr>
<tr>
<td>Bytes/s</td>
<td>Number of bytes collected on this priority level. Data is the rate per second over the last time interval.</td>
</tr>
</tbody>
</table>

**Step 2**
Select the data source to monitor from the Data Source list.

**Tip**
- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

**Related Topics**
- Viewing the VLAN Traffic Statistics Current Rates Table
- Viewing VLAN Traffic Statistics Cumulative Data Table
- Viewing the VLAN Traffic Statistics Top N Chart
- Viewing the VLAN Priority (COS) Statistics Cumulative Data Table
- Viewing DiffServ Data
Viewing the VLAN Priority (COS) Statistics Top N Chart

Note

This section does not apply to NM-NAM devices.

The Top N VLAN Priority (COS) Statistics Chart allows you to view user priority distributions per data source in a graphical format. The information displayed represents the data collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Procedure

**Step 1**
In the contents, click Priority (COS) Statistics.

**Step 2**
Click the TopN Chart radio button.

The Top N VLAN Priorities (COS) Statistics Chart (Figure 4-23) is displayed.

*Figure 4-23*  
**Top N VLAN Priorities (COS) Statistics Chart**
Step 3  Select the data source to be monitored from the Data Source list.

Step 4  Select one of the following from the Variable list:
- Packets—Displays the number of packets.
- Bytes—Displays the number of bytes.

Tip  To turn off auto refresh, deselect the Auto Refresh check box.

Related Topics
- Viewing the VLAN Traffic Statistics Current Rates Table
- Viewing VLAN Traffic Statistics Cumulative Data Table
- Viewing the VLAN Traffic Statistics Top N Chart
- Viewing the VLAN Priority (COS) Statistics Current Rates Table
- Viewing the VLAN Priority (COS) Statistics Cumulative Data Table

Viewing the VLAN Priority (COS) Statistics Cumulative Data Table

Note  This section does not apply to NM-NAM devices.
The VLAN Priority (COS) Statistics Cumulative Data table allows you to view user priority distributions per data source. The information displayed represents the total data collected since the collection was created or since the NAM was restarted. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Procedure

Step 1 In the contents, click **Priority (COS) Statistics**.

Step 2 Click the Cumulative Data radio button.

The VLAN Priority (COS) Statistics Cumulative Data Table (Table 4-34) is displayed.

*Table 4-34 VLAN Priority (COS) Statistics Cumulative Data Table*

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority</td>
<td>Value of the three bit user priority field encoded in the Tag Control Information field.</td>
</tr>
<tr>
<td>Packets</td>
<td>Total number of packets collected on this priority level.</td>
</tr>
<tr>
<td>Bytes</td>
<td>Total number of bytes collected on this priority level.</td>
</tr>
</tbody>
</table>

Step 3 Select the data source to monitor from the Data Source list.

Tip

To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

Related Topics

- Viewing the VLAN Traffic Statistics Current Rates Table
- Viewing the VLAN Traffic Statistics Top N Chart
- Viewing VLAN Traffic Statistics Cumulative Data Table
- Viewing the VLAN Priority (COS) Statistics Current Rates Table
- Viewing DiffServ Data
Viewing DiffServ Data

You can view the distribution of packets and bytes based on the Differential Services (DiffServ) data collected on the NAM.

**Note**

DiffServ data is not available for local NetFlow devices. This is applicable to WS-SVC-NAM-1, and WS-SVC-NAM-2 devices.

**Procedure**

**Step 1** Click the Monitor tab.

**Step 2** Click DiffServ.

The DiffServ Traffic Statistics table is displayed with three radio buttons above it. You can select a radio button for:

- Viewing the DiffServ Traffic Statistics Current Rates Table, page 4-84.
- Viewing the DiffServ Traffic Top N Chart, page 4-86.
- Viewing the DiffServ Traffic Statistics Cumulative Data Table, page 4-88.

**Step 3** To view the DiffServ data based on the application statistics, click Application Stats in the contents.

The DiffServ Applications Statistics table is displayed with three radio buttons above it. You can select a radio button for:

- Viewing the DiffServ Application Statistics Current Rates Table, page 4-89.
- Viewing the DiffServ Application Statistics Top N Chart.
- Viewing the DiffServ Application Statistics Cumulative Data Table, page 4-95.

**Step 4** To view the DiffServ data based on the host statistics, click Host Stats in the contents.

The DiffServ Host Statistics table is displayed with three radio buttons above it. You can select a radio button for:

- Viewing the DiffServ Host Statistics Current Rates Table, page 4-96.
- Viewing the DiffServ Host Statistics Top N Chart, page 4-100.
**Viewing the DiffServ Traffic Statistics Current Rates Table**

**Procedure**

**Step 1**  
In the contents, click **Traffic Stats**.

**Step 2**  
Click the Current Rates Table radio button.  
The DiffServ Traffic Statistics Current Rates Table (Table 4-35) is displayed.

**Step 3**  
Select the data source and profile to monitor from the Data Source-Profile list.

**Step 4**  
Enter the aggregation group to filter in the Aggregation text box, then click **Filter**.  
The specified aggregation group is displayed.

---

### Table 4-35  
**DiffServ Traffic Statistics Current Rates Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregation Group</td>
<td>Name of the aggregation group.</td>
</tr>
<tr>
<td>Packets/s</td>
<td>Total packets collected per second over the last interval.</td>
</tr>
<tr>
<td>Bytes/s</td>
<td>Total bytes collected per second over the last interval.</td>
</tr>
</tbody>
</table>

---

**Tip**

- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header.  
The variable is listed in descending order according to the percentage of the total.

**Related Topics**

- Viewing Real-Time Traffic Statistics from the DiffServ Traffic Statistics Table
• Viewing Reports from the DiffServ Traffic Statistics Table
• Viewing the DiffServ Traffic Statistics Cumulative Data Table
• Viewing the DiffServ Traffic Top N Chart

Viewing Real-Time Traffic Statistics from the DiffServ Traffic Statistics Table

You can view real-time traffic statistics in a graphical format for a specific aggregation group in the DiffServ Traffic Statistics table.

Select the aggregation group from the table, then click Real-Time. The Real-Time Graph (Figure 4-16) is displayed.

Note
The Real-Time button is disabled for NetFlow-based data sources.

Figure 4-24 Real-Time Graph

<table>
<thead>
<tr>
<th>DiffServ Stats Aggregation Group</th>
<th>DSCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable: Total Bytes/s</td>
<td></td>
</tr>
</tbody>
</table>

Related Topics
• Viewing Reports from the DiffServ Traffic Statistics Table
• Viewing the DiffServ Traffic Statistics Current Rates Table
• Viewing the DiffServ Traffic Statistics Cumulative Data Table
• Viewing the DiffServ Traffic Top N Chart
Viewing Reports from the DiffServ Traffic Statistics Table

You can view reports directly from the DiffServ Traffic Statistics table. Select the aggregation group you wish to view a report on, then click **Report**. The Basic Reports graph is displayed. If a report is not configured, the Basic Reports screen appears and a new report is created for the selected data source.

For more information on viewing and creating reports, see Chapter 5, “Creating and Viewing Reports.”

**Related Topics**

- Viewing Real-Time Traffic Statistics from the DiffServ Traffic Statistics Table
- Viewing the DiffServ Traffic Statistics Current Rates Table
- Viewing the DiffServ Traffic Statistics Cumulative Data Table
- Viewing the DiffServ Traffic Top N Chart

Viewing the DiffServ Traffic Top N Chart

**Procedure**

1. **Step 1**  In the contents, click **Traffic Stats**.
2. **Step 2**  Click the TopN Chart radio button.

The **Top N DiffServ Aggregation Group Chart** (Figure 4-25) is displayed.
Chapter 4  Monitoring Data

Viewing DiffServ Data

Figure 4-25  Top N DiffServ Aggregation Group Chart

1. Data Source-Profile list.
2. Top N aggregation groups.
3. Variable list.
4. Number of packets/bytes collected per second.
Step 3 Select the data source and profile to monitor from the Data Source-profile list.

Step 4 Select one of the following from the Variable list:
- Total Packets—Displays the number of total packets.
- Total Bytes—Displays the number of total bytes.

Tip To turn off auto refresh, deselect the Auto Refresh check box.

Related Topics
- Viewing the DiffServ Traffic Statistics Current Rates Table
- Viewing the DiffServ Traffic Statistics Cumulative Data Table
- Viewing the DiffServ Application Statistics Current Rates Table
- Viewing the DiffServ Application Statistics Top N Chart
- Viewing the DiffServ Application Statistics Cumulative Data Table
- Viewing the DiffServ Host Statistics Current Rates Table
- Viewing the DiffServ Host Statistics Top N Chart
- Viewing the DiffServ Host Statistics Cumulative Data Table

Viewing the DiffServ Traffic Statistics Cumulative Data Table

Procedure

Step 1 In the contents, click Traffic Stats.

Step 2 Click the Cumulative Data radio button.

The DiffServ Traffic Statistics Cumulative Data (Table 4-36) is displayed.
**Viewing DiffServ Data**

**Chapter 4  Monitoring Data**

**Step 3** Select the data source and profile to monitor from the Data Source-profile list.

**Step 4** Enter the aggregation group to filter in the Aggregation text box, then click **Filter**. The specified aggregation group is displayed.

---

**Table 4-36  DiffServ Traffic Statistics Cumulative Data**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregation Group</td>
<td>Name of the aggregation group.</td>
</tr>
<tr>
<td>Packets</td>
<td>Total packets collected over the last interval.</td>
</tr>
<tr>
<td>Bytes</td>
<td>Total bytes collected over the last interval.</td>
</tr>
</tbody>
</table>

---

**Tip**

- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

**Related Topics**

- Viewing Real-Time Traffic Statistics from the DiffServ Traffic Statistics Table
- Viewing Reports from the DiffServ Traffic Statistics Table
- Viewing the DiffServ Traffic Statistics Current Rates Table
- Viewing the DiffServ Traffic Top N Chart

---

**Viewing the DiffServ Application Statistics Current Rates Table**

**Procedure**

**Step 1** In the contents, click **Application Stats**.

**Step 2** Click the Current Rates Table radio button.
The **DiffServ Application Statistics Current Rates** (Table 4-37) is displayed.

**Table 4-37 DiffServ Application Statistics Current Rates**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol Name</td>
<td>Name of the monitored protocol.</td>
</tr>
<tr>
<td>Packets/s</td>
<td>Total packets collected per second over the last interval.</td>
</tr>
<tr>
<td>Bytes/s</td>
<td>Total bytes collected per second over the last interval.</td>
</tr>
</tbody>
</table>

**Step 3** Select the data source and profile to monitor from the Data Source-Profile list.

**Step 4** Select the aggregation group from the Aggregation list.

**Step 5** To view a specific protocol, enter the protocol in the Protocol text box, then click **Filter**.

The specified protocol is displayed.

**Tip**
- To view the full protocol name, move the cursor over the protocol name.
- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

**Related Topics**
- Displaying Application Conversation Details From Application Statistics Table
- Viewing Real-Time Traffic Statistics from the DiffServ Application Statistics Table
- Viewing Reports from the DiffServ Application Statistics Table
- Viewing the DiffServ Application Statistics Cumulative Data Table
- Viewing the DiffServ Application Statistics Top N Chart
Displaying Application Conversation Details From Application Statistics Table

To view the Application Conversations details table, click the protocol name in the Protocol Name column. The Application Conversations Table (Table 4-38) is displayed.

**Table 4-38 Application Conversations Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Source host address of the conversation.</td>
</tr>
<tr>
<td>Destination</td>
<td>Destination host address of the conversation.</td>
</tr>
<tr>
<td>Packets</td>
<td>Number of packets during the conversation.</td>
</tr>
<tr>
<td>Bytes</td>
<td>Number of bytes during the conversation.</td>
</tr>
</tbody>
</table>

**Tip**

To turn off auto refresh, deselect the Auto Refresh check box.

**Related Topics**

- Viewing Real-Time Traffic Statistics from the DiffServ Application Statistics Table
- Viewing Reports from the DiffServ Application Statistics Table
- Viewing the DiffServ Application Statistics Current Rates Table
- Viewing the DiffServ Application Statistics Cumulative Data Table
- Viewing the DiffServ Application Statistics Top N Chart

Viewing Real-Time Traffic Statistics from the DiffServ Application Statistics Table

You can view real-time traffic statistics in a graphical format for a specific application protocol in the DiffServ Application Statistics table.

Select the application protocol from the table, then click Real-Time. The Real-Time Graph (Figure 4-16) is displayed.

**Note**

The Real-Time button is disabled for NetFlow-based data sources.
Figure 4-26  **Real-Time Graph**

Related Topics

- Displaying Application Conversation Details From Application Statistics Table
- Viewing Reports from the DiffServ Application Statistics Table
- Viewing the DiffServ Application Statistics Current Rates Table
- Viewing the DiffServ Application Statistics Cumulative Data Table
- Viewing the DiffServ Application Statistics Top N Chart
Viewing Reports from the DiffServ Application Statistics Table

You can view reports directly from the DiffServ Application Statistics table. Select the application protocol you wish to view a report on, then click Report. The Basic Reports graph is displayed. If a report is not configured, the Basic Reports screen appears and a new report is created for the selected application and data source.

For more information on viewing and creating reports, see Chapter 5, “Creating and Viewing Reports.”

Related Topics

- Displaying Application Conversation Details From Application Statistics Table
- Viewing Real-Time Traffic Statistics from the DiffServ Application Statistics Table
- Viewing the DiffServ Application Statistics Current Rates Table
- Viewing the DiffServ Application Statistics Cumulative Data Table
- Viewing the DiffServ Application Statistics Top N Chart

Viewing the DiffServ Application Statistics Top N Chart

Procedure

Step 1 In the contents, click Application Stats.

Step 2 Click the TopN Chart radio button.

The Top N DiffServ Application Statistics Chart (Figure 4-27) is displayed.
Step 3  Select the data source to monitor from the Data Source list.
Step 4  Select the aggregation group from the Aggregation list.
Step 5  Select one of the following from the Variable list:
   - Total Packets—Sorts the addresses based on the number of total packets.
   - Total Bytes—Sorts the addresses based on the number of total bytes.
Viewing DiffServ Data

Related Topics

- Viewing the DiffServ Application Statistics Current Rates Table
- Viewing the DiffServ Application Statistics Top N Chart

**Viewing the DiffServ Application Statistics Cumulative Data Table**

**Procedure**

**Step 1**  
In the contents, click **Application Stats**.

**Step 2**  
Click the Cumulative Data radio button.  
The DiffServ Application Statistics Cumulative Data Table (Table 4-39) is displayed.

**Table 4-39 DiffServ Application Statistics Cumulative Data Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol Name</td>
<td>Name of the monitored protocol.</td>
</tr>
<tr>
<td>Packets</td>
<td>Total packets collected over the last interval.</td>
</tr>
<tr>
<td>Bytes</td>
<td>Total bytes collected over the last interval.</td>
</tr>
</tbody>
</table>

**Step 3**  
Select the data source and profile to monitor from the Data Source-Profile list.

**Step 4**  
Select the aggregation group from the Aggregation list.

**Step 5**  
To view a specific protocol, enter the protocol in the Protocol text box, then click **Filter**.  
The specified protocol is displayed.

**Tip**
To turn off auto refresh, deselect the Auto Refresh check box.  
To view the full protocol name, move the cursor over the protocol name.
Viewing DiffServ Data

Tip

- To view the full protocol name, move the cursor over the protocol name.
- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

Related Topics

- Displaying Application Conversation Details From Application Statistics Table
- Viewing Real-Time Traffic Statistics from the DiffServ Application Statistics Table
- Viewing Reports from the DiffServ Application Statistics Table
- Viewing the DiffServ Application Statistics Current Rates Table
- Viewing the DiffServ Application Statistics Top N Chart

Viewing the DiffServ Host Statistics Current Rates Table

Procedure

Step 1

In the contents, click **Host Stats**.

Step 2

Click the Current Rates radio button.

The **DiffServ Host Statistics Current Rates Table** (Table 4-40) is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Address of the host.</td>
</tr>
<tr>
<td>Type</td>
<td>Type of protocol monitored.</td>
</tr>
<tr>
<td>In Packets/s</td>
<td>Total number of input packets collected per second.</td>
</tr>
<tr>
<td>Out Packets/s</td>
<td>Total number of output packets collected per second.</td>
</tr>
</tbody>
</table>
Step 3  Select the data source and profile to monitor from the Data Source-Profile list.

Step 4  Select the aggregation group from the Aggregation list.

Step 5  To view a specific address, enter the address in the Address text box, then click **Filter**.

The specified address is displayed.

---

**Table 4-40  DiffServ Host Statistics Current Rates Table (continued)**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Bytes/s</td>
<td>Total number of input bytes collected per second.</td>
</tr>
<tr>
<td>Total Bytes/s</td>
<td>Total number of output bytes collected per second.</td>
</tr>
</tbody>
</table>

**Tip**

- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

**Related Topics**

- Displaying Host Conversation Details From the DiffServ Host Statistics Table
- Viewing Real-Time Data from the DiffServ Host Statistics Table
- Viewing Reports from the DiffServ Host Statistics Table
- Viewing the DiffServ Host Statistics Cumulative Data Table
- Viewing the DiffServ Host Statistics Top N Chart

**Displaying Host Conversation Details From the DiffServ Host Statistics Table**

To view the Host Conversations details table, click the address name in the Address column. The **Host Conversations Table** (Table 4-41) is displayed.
**Viewing DiffServ Data**

**Table 4-41**  
*Host Conversations Table*

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Source host address of the conversation.</td>
</tr>
<tr>
<td>Application</td>
<td>The application protocol used on the conversation.</td>
</tr>
<tr>
<td>Destination</td>
<td>Destination host address of the conversation.</td>
</tr>
<tr>
<td>Packets</td>
<td>Number of packets during the conversation.</td>
</tr>
<tr>
<td>Octets</td>
<td>Number of octets during the conversation.</td>
</tr>
</tbody>
</table>

**Tip**  
To turn off auto refresh, deselect the Auto Refresh check box.

**Related Topics**

- Viewing Real-Time Data from the DiffServ Host Statistics Table
- Viewing Reports from the DiffServ Host Statistics Table
- Viewing the DiffServ Host Statistics Current Rates Table
- Viewing the DiffServ Host Statistics Cumulative Data Table
- Viewing the DiffServ Host Statistics Top N Chart

**Viewing Real-Time Data from the DiffServ Host Statistics Table**

You can view real-time data in a graphical format for a specific host in the DiffServ Host Statistics table.

Select the host from the table, then click **Real-Time**. The Real-Time Graph (Figure 4-16) is displayed.

**Note**  
The Real-Time button is disabled for NetFlow-based data sources.
Viewing Reports from the DiffServ Host Statistics Table

You can view reports directly from the DiffServ Host Statistics table. Select the host you wish to view a report on, then click **Report**. The Basic Reports graph is displayed. If a report is not configured, the Basic Reports screen appears and a new report is created for the selected host and data source.

**Related Topics**

- Displaying Host Conversation Details From the DiffServ Host Statistics Table
- Viewing Reports from the DiffServ Host Statistics Table
- Viewing the DiffServ Host Statistics Current Rates Table
- Viewing the DiffServ Host Statistics Cumulative Data Table
- Viewing the DiffServ Host Statistics Top N Chart
Viewing the DiffServ Host Statistics Top N Chart

Procedure

**Step 1**  In the contents, click **Host Stats**.

**Step 2**  Click the TopN Chart radio button.

The DiffServ Top N Host Statistics Chart (Figure 4-29) is displayed.
**Step 3** Select the data source and profile from the Data Source-Profile list.

**Step 4** Select the aggregation group from the Aggregation list.

**Step 5** Select one of the following from the Variable list:

- Total Packets—Sorts the addresses based on the number of total packets.
- Total bytes—Sorts the addresses based on the number of total bytes.
Tip

To turn off auto refresh, deselect the Auto Refresh check box.

Related Topics

- Viewing the DiffServ Traffic Statistics Current Rates Table
- Viewing the DiffServ Traffic Statistics Cumulative Data Table
- Viewing the DiffServ Traffic Top N Chart
- Viewing the DiffServ Application Statistics Current Rates Table
- Viewing the DiffServ Application Statistics Cumulative Data Table
- Viewing the DiffServ Host Statistics Current Rates Table
- Viewing the DiffServ Host Statistics Cumulative Data Table

Viewing the DiffServ Host Statistics Cumulative Data Table

Procedure

Step 1
In the contents, click Host Stats.

Step 2
Click the Cumulative Data radio button.

The DiffServ Host Statistics Cumulative Data Table (Table 4-42) is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Address of the host.</td>
</tr>
<tr>
<td>Type</td>
<td>Type of protocol monitored.</td>
</tr>
<tr>
<td>In Packets</td>
<td>Total number of packets received over the last time interval.</td>
</tr>
<tr>
<td>Out Packets</td>
<td>Total number of packets sent over the last time interval.</td>
</tr>
<tr>
<td>In Bytes</td>
<td>Total number of bytes received over the last time interval.</td>
</tr>
<tr>
<td>Out Bytes</td>
<td>Total number of bytes sent over the last time interval.</td>
</tr>
</tbody>
</table>
Step 3  Select the data source to monitor from the Data Source list.

Step 4  Select the aggregation group from the Aggregation list.

Step 5  To view a specific address, enter the address in the Address text box, then click Filter.

The specified address is displayed.

Tip

- To turn off auto refresh, deselect the Auto Refresh check box.
- To sort a table variable by percentage of the total, click on the column header. The variable is listed in descending order according to the percentage of the total.

Related Topics

- Displaying Host Conversation Details From the DiffServ Host Statistics Table
- Viewing the DiffServ Traffic Statistics Current Rates Table
- Viewing the DiffServ Traffic Statistics Cumulative Data Table
- Viewing the DiffServ Traffic Top N Chart
- Viewing the DiffServ Application Statistics Current Rates Table
- Viewing the DiffServ Application Statistics Top N Chart
- Viewing the DiffServ Application Statistics Cumulative Data Table
- Viewing the DiffServ Host Statistics Current Rates Table
- Viewing the DiffServ Host Statistics Top N Chart

Monitoring Response Time Data

Response time data provides TCP response time distributions for TCP protocols. You can view this data for each server or between clients and servers.
Procedure

Step 1
Click the Monitor tab.

Step 2
Click **Response Time**.

The Response Time Server Table is displayed with two radio buttons above it. You can select a radio button for:

- Viewing the Server Response Time Table, page 4-104.
- Viewing the Server Response Time Top N Chart, page 4-107.

Step 3
To view the data based on the response time between clients and servers, click **Client/Server** in the contents.

The Client/Server Response Time Table is displayed with two radio buttons above it. You can select a radio button for:

- Viewing the Client/Server Response Time Table, page 4-109.
- Viewing the Client/Server Response Time Top N Chart, page 4-112.

---

**Viewing the Server Response Time Table**

Procedure

Step 1
Click the All Data radio button.

The **Server Response Time Table** (Table 4-43) is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select</td>
<td>Selects a specific entry.</td>
</tr>
<tr>
<td>Server</td>
<td>Host address of the server.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Application layer protocol.</td>
</tr>
<tr>
<td>Clients</td>
<td>Number of clients the server has communicated with.</td>
</tr>
<tr>
<td>Avg Resp Time</td>
<td>Average response time in milliseconds observed during the report interval.</td>
</tr>
</tbody>
</table>
Step 2  Select the data source to be monitored from the Data Source list.

Step 3  Select the variable you want to filter from the filter list.

Step 4  Enter the address of the server or name of the protocol you wish to filter in the filter text box, then click **Filter**.

The specified server addresses or protocol names are displayed.

---

**Tip**
- To turn off auto refresh, deselect the Auto Refresh check box.
- To view the full protocol name, move the cursor over the protocol name in the Protocol column of the table.

**Related Topics**
- Viewing Server Response Time Details
- Capturing Server Protocol Data from the Server Response Time Table
- Viewing Reports from the Server Response Time Table
- Viewing the Server Response Time Top N Chart
Viewing Server Response Time Details

To view details for a specific server, click the radio button in the Select column, then click Details. The Response Time Server Detail window is displayed. You can view detailed information from the server as well as a chart displaying the response time distribution.

Related Topics
- Capturing Server Protocol Data from the Server Response Time Table
- Viewing Reports from the Server Response Time Table
- Viewing the Server Response Time Table
- Viewing the Server Response Time Top N Chart

Capturing Server Protocol Data from the Server Response Time Table

You can capture data from a specific server protocol directly from the Server Response Time table.

Select the server protocol from the table, then click Capture. The Packet Browser is displayed. For more information on viewing packets using the Packet Browser, see the “Viewing Detailed Protocol Decode Information” section on page 6-18.

If a capture is already running, a message window is displayed. Click Yes to stop the current capture or No to disregard your selection.

The Capture button is only available for a subset of reported protocols. For protocols such as IP, IPv6, and GRE, you must set up a custom filter. For more information on setting up custom filters, see the “Creating Custom Capture Filters” section on page 6-20.

Note
The Capture button is disabled for NetFlow-based data sources.

Related Topics
- Viewing Server Response Time Details
- Viewing Reports from the Server Response Time Table
- Viewing the Server Response Time Table
- Viewing the Server Response Time Top N Chart
Viewing Reports from the Server Response Time Table

You can view reports directly from the Server Response Time table. Select the server you wish to view a report on, then click Report. The Basic Reports graph is displayed. If a report is not configured, the Basic Reports screen appears and a new report is created for the selected server and data source.

For more information on viewing and creating reports, see Chapter 5, “Creating and Viewing Reports.”

Related Topics
- Viewing Server Response Time Details
- Capturing Server Protocol Data from the Server Response Time Table
- Viewing the Server Response Time Table
- Viewing the Server Response Time Top N Chart

Viewing the Server Response Time Top N Chart

Procedure

Step 1  Click the Top N Chart radio button.

The Server Response Time Top N Chart (Figure 4-30) is displayed.
Step 2  Select the data source to be monitored from the Data Source list.

Step 3  Select the sorting option from the Variable list.

The specified option is displayed in the chart.

Tip  
- To turn off auto refresh, deselect the Auto Refresh check box.
To view the full protocol name, move the cursor over the protocol name in the Protocol column of the table.

---

**Tips**

- To turn off auto refresh, deselect the Auto Refresh check box.
- To view the full protocol name, move the cursor over the protocol name in the Protocol column of the table.

**Related Topics**

- Viewing the Server Response Time Table
- Viewing the Client/Server Response Time Table
- Viewing the Client/Server Response Time Top N Chart

### Viewing the Client/Server Response Time Table

#### Procedure

1. **Step 1**
   - In the contents, click **Client/Server**.

2. **Step 2**
   - Click the All radio button.

   The Client/Server Response Time Table (Table 4-44) is displayed.

**Table 4-44  **Client/Server Response Time Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select</td>
<td>Selects a specific entry.</td>
</tr>
<tr>
<td>Server</td>
<td>Host address of the server.</td>
</tr>
<tr>
<td>Client</td>
<td>Host address of the client.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Application layer protocol.</td>
</tr>
<tr>
<td>Avg Resp Time</td>
<td>Average response time in milliseconds observed during the report interval.</td>
</tr>
<tr>
<td>Min Resp Time</td>
<td>Minimum response time in milliseconds observed during the report interval.</td>
</tr>
<tr>
<td>Max Resp Time</td>
<td>Maximum value of the individual response times observed during the interval.</td>
</tr>
</tbody>
</table>
**Chapter 4      Monitoring Data**

### Monitoring Response Time Data

**Step 3**
Select the data source to be monitored from the Data Source list.

**Step 4**
Select a variable to filter from the filter list.

**Step 5**
Enter the name of the variable to filter in the filter box, then click **Filter**. The specified variable is displayed.

---

**Tip**
- To turn off auto refresh, deselect the Auto Refresh check box.
- To view the full protocol name, move the cursor over the protocol name in the Protocol column of the table.

---

**Related Topics**
- Viewing Client/Server Response Time Details
- Capturing Protocol Data from the Client/Server Response Time Table
- Viewing Reports from the Client/Server Response Time Table
- Viewing the Client/Server Response Time Top N Chart

---

**Viewing Client/Server Response Time Details**

To view details for a specific client/server conversation, click the radio button in the Select column, and click **Details**. The Response Time Client/Server Detail window is displayed. You can view detailed information from the client/server conversation as well as a chart displaying the response time distribution.

**Related Topics**
- Capturing Protocol Data from the Client/Server Response Time Table
- Viewing Reports from the Client/Server Response Time Table
- Viewing the Client/Server Response Time Table
- Viewing the Client/Server Response Time Top N Chart

Capturing Protocol Data from the Client/Server Response Time Table

You can capture data for a specific protocol directly from the Client/Server Response Time table.

Select the server protocol from the table, then click **Capture**. The Packet Browser is displayed. For more information on viewing packets using the Packet Browser, see the “Viewing Detailed Protocol Decode Information” section on page 6-18.

The Capture button is available only for a subset of reported protocols. For protocols such as IP, IPv6, and GRE, you must set up a custom filter. For more information on setting up custom filters, see the “Creating Custom Capture Filters” section on page 6-20.

**Note**
The Capture button is disabled for NetFlow-based data sources.

**Related Topics**
- Viewing Client/Server Response Time Details
- Viewing Reports from the Client/Server Response Time Table
- Viewing the Client/Server Response Time Table
- Viewing the Client/Server Response Time Top N Chart

Viewing Reports from the Client/Server Response Time Table

You can view reports directly from the Client/Server Response Time table. Select the protocol you wish to view a report on, then click **Report**. The Basic Reports graph is displayed. If a report is not configured, the Basic Reports screen appears and a new report is created for the selected client/server and data source.

For more information on viewing and creating reports, see Chapter 5, “Creating and Viewing Reports.”

**Related Topics**
- Viewing Client/Server Response Time Details
- Capturing Protocol Data from the Client/Server Response Time Table
Viewing the Client/Server Response Time Top N Chart

Procedure

Step 1 In the contents, click **Client/Server**.

Step 2 Click the TopN Chart radio button.

The **Client/Server Response Time Top N Chart** (Figure 4-31) is displayed.

*Figure 4-31  Client/Server Response Time Top N Chart*
Viewing Port/Interface Statistics Data

To view the various data collected for the switch or router, click the Monitor tab, then click **Switch** or **Router**. The Port Stats or Interface Stats table is displayed with three radio buttons above it.

For Port Stats, you can click a radio button for:

- Viewing the Port Stats Current Rates Table, page 4-114.
- Viewing the Top N Port Stats Chart, page 4-119.
- Viewing the Port Stats Cumulative Data Table, page 4-123.

### Step 3
Select the data source to be monitored from the Data Source list.

### Step 4
Select the sorting option from the Variable list.

The specified option is displayed in the chart.

### Tip
- To turn off auto refresh, deselect the Auto Refresh check box.
- To view the full protocol name, move the cursor over the protocol name in the Protocol column of the table.

### Related Topics
- Viewing the Server Response Time Table
- Viewing the Server Response Time Top N Chart
- Viewing the Client/Server Response Time Table
For Interface Stats you can click a radio button for:

- Viewing the Interface Stats Current Rates Table, page 4-115.
- Viewing the Top N Interface Stats Chart, page 4-121.
- Viewing the Interface Stats Cumulative Data Table, page 4-125.

### Viewing the Port Stats Current Rates Table

The Port Stats Current Rates table allows you to view the various data collected for the switch. The information displayed represents the data collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

The Count Types drop down menu enables you to view the default Traffic Rates.

**Procedure**

**Step 1**
Click the Current Rates Table radio button.

The Port Stats Current Rates Table (Traffic Rates) (Table 4-45) lists the fields displayed when the Count Type is set to Traffic Rates.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Name</td>
<td>Port number.</td>
</tr>
<tr>
<td>Utilization %</td>
<td>Utilization percentage of the port.</td>
</tr>
<tr>
<td>Bytes/s</td>
<td>Number of bytes collected on the port per second.</td>
</tr>
<tr>
<td>Packets/s</td>
<td>Number of packets collected on the port per second.</td>
</tr>
<tr>
<td>Broadcast Packets/s</td>
<td>Number of broadcast packets collected per second.</td>
</tr>
<tr>
<td>Multicast Packets/s</td>
<td>Number of multicast packets collected per second.</td>
</tr>
<tr>
<td>Errors</td>
<td>Number of all types of errors detected. See Table 4-46 for a list of all errors.</td>
</tr>
</tbody>
</table>

The Port Stats Current Rates Table (Error Rates) (Table 4-46) lists the fields displayed when the Count Type is set to Error Rates.
Viewing Port/Interface Statistics Data

Chapter 4  Monitoring Data

Step 2
Enter the port name to filter in the Port Name text box, then press Filter.

The specified port name is displayed.

Tip
To turn off auto refresh, deselect the Auto Refresh check box.

Viewing the Interface Stats Current Rates Table

The Interface Stats Current Rates table allows you to view the various data collected for the router. The information displayed represents the data collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Table 4-46  Port Stats Current Rates Table (Error Rates)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Name</td>
<td>Port number.</td>
</tr>
<tr>
<td>Utilization %</td>
<td>Utilization percentage of the port.</td>
</tr>
<tr>
<td>Dropped Events/s</td>
<td>Number of dropped events per second.</td>
</tr>
<tr>
<td>CRC Align Errors/s</td>
<td>Number of CRC align errors collected per second.</td>
</tr>
<tr>
<td>Undersize packets/s</td>
<td>Number of packets collected under 64 octets in length.</td>
</tr>
<tr>
<td>Oversize Packets/s</td>
<td>Number of packets collected over 1518 octets in length.</td>
</tr>
<tr>
<td>Fragments/s</td>
<td>Number of packets collected per second that were less than 64 octets in length and had bad a Frame Check Sequence (FCS).</td>
</tr>
<tr>
<td>Jabbers/s</td>
<td>Number of collected packets collected per second that were longer than 1518 octets in length and had a bad Frame Check Sequence (FCS).</td>
</tr>
<tr>
<td>Collisions/s</td>
<td>Number of collisions collected per second on the Ethernet segment.</td>
</tr>
</tbody>
</table>

Note  
Table 4-45 and Table 4-46 are also valid for the Cumulative Data radio button.
**Procedure**

**Step 1**
Click the Current Rates radio button.

The Interface Stats Current Rates Table (Table 4-45) is displayed.

**Table 4-47  Interface Stats Current Rates Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td>Interface number.</td>
</tr>
<tr>
<td>In % Utilization</td>
<td>Utilization percentage of the port.</td>
</tr>
<tr>
<td>Out % Utilization</td>
<td>Utilization percentage of the port.</td>
</tr>
<tr>
<td>In Packets/s</td>
<td>Number of packets collected per second.</td>
</tr>
<tr>
<td>Out Packets/s</td>
<td>Number of packets sent out per second.</td>
</tr>
<tr>
<td>In Bytes/s</td>
<td>Number of bytes collected per second.</td>
</tr>
<tr>
<td>Out Bytes/s</td>
<td>Number of bytes sent out per second.</td>
</tr>
<tr>
<td>In Non-Unicasts/s</td>
<td>Number of non-unicasts collected per second.</td>
</tr>
<tr>
<td>Out Non-Unicasts/s</td>
<td>Number of non-unicasts sent out per second.</td>
</tr>
<tr>
<td>In Discards/s</td>
<td>Number of discards collected per second.</td>
</tr>
<tr>
<td>Out Discards/s</td>
<td>Number of discards sent out per second.</td>
</tr>
<tr>
<td>In Errors/s</td>
<td>Number of errors collected per second.</td>
</tr>
<tr>
<td>Out Errors/s</td>
<td>Number of errors sent out per second.</td>
</tr>
</tbody>
</table>

**Step 2**
Enter the name of the to filter in the Filter text box, then click **Filter**.

The specified interface name is displayed.

**Tips**
- To turn off auto refresh, deselect the Auto Refresh check box.

**Related Topics**
- Viewing Port/Interface Details
• Viewing Real-Time Traffic Data from the Port/Interface Stats Table
• Viewing Reports from the Port/Interface Stats Table
• Viewing the Interface Stats Cumulative Data Table
• Viewing the Top N Interface Stats Chart

Viewing Port/Interface Details

To view packet distribution details on a specific port or interface, click the number of the port in the Port Name column or the number of the interface in the Interface column. The detail window displays a chart that shows the packet distribution per second on the specified port or interface.

Related Topics
• Viewing Real-Time Traffic Data from the Port/Interface Stats Table
• Viewing Reports from the Port/Interface Stats Table
• Viewing the Port Stats Current Rates Table
• Viewing the Port Stats Cumulative Data Table
• Viewing the Top N Port Stats Chart
• Viewing the Interface Stats Current Rates Table
• Viewing the Interface Stats Cumulative Data Table
• Viewing the Top N Interface Stats Chart

Viewing Real-Time Traffic Data from the Port/Interface Stats Table

You can view real-time data in a graphical format for a specific switch port or interface in the Port Stats or Interface Stats table.

Select the switch port or interface from the table, then click Real-Time. The Real-Time Graph (Figure 4-32) is displayed.

Note

The Real-Time button is disabled for NetFlow-based data sources.
Viewing Port/Interface Statistics Data

Figure 4-32 Real-Time Graph

**Related Topics**
- Viewing Port/Interface Details
- Viewing Reports from the Port/Interface Stats Table
- Viewing the Interface Stats Current Rates Table
- Viewing the Interface Stats Cumulative Data Table
- Viewing the Top N Interface Stats Chart

**Viewing Reports from the Port/Interface Stats Table**

You can view reports directly from the Port Stats or Interface Stats table. Select the switch port or interface for which to view a report, then click **Report**. The Basic Reports graph is displayed. If a report is not configured, the Basic Reports screen appears and a new report is created for the selected port and data source.

For more information on viewing and creating reports, see Chapter 5, “Creating and Viewing Reports.”

**Related Topics**
- Viewing Port/Interface Details
- Viewing Real-Time Traffic Data from the Port/Interface Stats Table
- Viewing the Interface Stats Current Rates Table
- Viewing the Interface Stats Cumulative Data Table
- Viewing the Top N Interface Stats Chart

**Viewing the Top N Port Stats Chart**

The Port Stats Top N Chart allows you to view the various data collected for each port in a graphical format. The information displayed represents the data collected per second over the last time interval.

**Procedure**

**Step 1**
Click the TopN Chart radio button.

The Top N Port Stats Chart (Figure 4-33) is displayed.
Step 2  Select one of the following from the Variable list:

- **Utilization**—Sorts the interface number based on the utilization percentage. If the utilization percentage is less than 0.1%, the percentage is displayed as 0.0% in the chart.
- **Dropped Events**—Sorts the interface number based on the number of dropped events.
- **Bytes**—Sorts the interface number based on the number of bytes.
- **Packets**—Sorts the interface number based on the number of packets.
- **Broadcast Pkts**—Sorts the interface number based on the number of broadcast packets.
- **Multicast Pkts**—Sorts the interface number based on the number of multicast packets.
• CRC Align Errors—Sorts the interface number based on the number of CRC Align errors.
• Undersize Pks—Sorts the interface number based on the number of undersize packets.
• Oversize Pks—Sorts the interface number based on the number of oversize packets.
• Fragments—Sorts the interface number based on the number of fragments.
• Jabbers—Sorts the interface number based on the number of jabbers.
• Collisions—Sorts the interface number based on the number of collisions.

Tip
To turn off auto refresh, deselect the Auto Refresh check box.

Related Topics
• Viewing the Port Stats Current Rates Table
• Viewing the Port Stats Cumulative Data Table

Viewing the Top N Interface Stats Chart

The Interface Stats Top N Chart enables you to view the various data collected for each interface in a graphical format. The displayed information represents the data collected per second over the last time interval.

Procedure

Step 1  Click the TopN Chart radio button.

The Top N Interface Stats Chart (Figure 4-34) is displayed.
Step 2

Select one of the following from the Variable list:

- In Packets/s—Sorts the interface number based packets collected per second.
- Out Packets/s—Sorts the interface number based on the number of packets sent out per second.
- In Bytes/s—Sorts the interface number based on the number of bytes collected per second.
- Out Bytes/s—Sorts the interface number based on the number of bytes sent out per second.
- In Non-Unicast Pkts/s—Sorts the interface number based on the number of non-unicast packets collected per second.
- Out Non-Unicast Pkts/s—Sorts the interface number based on the number of non-unicast packets sent out per second.
- In Errors/s—Sorts the interface number based on the number of errors collected per second.
- Out Errors/s—Sorts the interface number based on the number of errors sent out per second.
- In Discards/s—Sorts the interface number based on the number of discards collected per second.
- Out Discards/s—Sorts the interface number based on the number of discards sent out per second.

**Tip**

To turn off auto refresh, deselect the Auto Refresh check box.

**Related Topics**

- Viewing the Interface Stats Current Rates Table
- Viewing the Interface Stats Cumulative Data Table

**Viewing the Port Stats Cumulative Data Table**

The Port Stats Cumulative Data table allows you to view the various data collected for the switch. The information displayed represents the total data collected since the collection was created or since the NAM was restarted. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

**Procedure**

**Step 1**

Click the Cumulative Data radio button.

The Port Stats Cumulative Data Table (Table 4-48) is displayed. When you select Traffic Rates, only the traffic data are shown along with a field for total errors. When you select Error Rates, the Port Name and Utilization fields are shown with fields for each error type. Select All to view all traffic rates and all errors at once.
### Viewing Port/Interface Statistics Data

**Step 2**  
To refresh the data in the table, click **Refresh**.

**Step 3**  
Enter the port name to filter in the Port Name text box, then press **Filter**.  
The specified port name is displayed.

### Related Topics
- Viewing Port/Interface Details
- Viewing Real-Time Traffic Data from the Port/Interface Stats Table
- Viewing Reports from the Port/Interface Stats Table

---

### Table 4-48  Port Stats Cumulative Data Table

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Name</td>
<td>Port number.</td>
</tr>
<tr>
<td>Utilization</td>
<td>Utilization percentage of the port.</td>
</tr>
<tr>
<td>Bytes</td>
<td>Number of bytes collected on the port.</td>
</tr>
<tr>
<td>Packets</td>
<td>Number of packets collected on the port.</td>
</tr>
<tr>
<td>Broadcast Packets</td>
<td>Number of broadcast packets collected.</td>
</tr>
<tr>
<td>Multicast Packets</td>
<td>Number of multicast packets collected.</td>
</tr>
<tr>
<td>Errors</td>
<td>Total of all errors</td>
</tr>
<tr>
<td>Note</td>
<td>This field is shown only when you select Traffic Rates.</td>
</tr>
<tr>
<td>Dropped Events</td>
<td>Number of dropped events.</td>
</tr>
<tr>
<td>CRC Align Errors</td>
<td>Number of CRC align errors collected.</td>
</tr>
<tr>
<td>Undersize packets</td>
<td>Number of collected packets under 64 octets long.</td>
</tr>
<tr>
<td>Oversize Packets</td>
<td>Number of collected packets over 1518 octets long.</td>
</tr>
<tr>
<td>Fragments</td>
<td>Number of collected packets collected that were less than 64 octets long and had bad Frame Check Sequence (FCS).</td>
</tr>
<tr>
<td>Jabbers</td>
<td>Number of collected packets collected that were longer than 1518 octets long and had bad Frame Check Sequence (FCS).</td>
</tr>
<tr>
<td>Collisions</td>
<td>Number of collected collisions on the Ethernet segment.</td>
</tr>
</tbody>
</table>
- Viewing the Port Stats Current Rates Table
- Viewing the Top N Port Stats Chart

Viewing the Interface Stats Cumulative Data Table

The Interface Stats Cumulative Data table enables you to view the various data collected for the router. The displayed information represents the total data collected since the collection was created or since the NAM was restarted. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Procedure

Step 1  Click the Cumulative Data radio button.

The Interface Stats Cumulative Data Table (Table 4-49) is displayed.

Table 4-49  Interface Stats Cumulative Data Table

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td>Interface number.</td>
</tr>
<tr>
<td>In Packets/s</td>
<td>Number of packets collected per second.</td>
</tr>
<tr>
<td>Out Packets/s</td>
<td>Number of packets sent out per second.</td>
</tr>
<tr>
<td>In Bytes/s</td>
<td>Number of bytes collected per second.</td>
</tr>
<tr>
<td>Out Bytes/s</td>
<td>Number of bytes sent out per second.</td>
</tr>
<tr>
<td>In Non-Unicasts/s</td>
<td>Number of non-unicasts collected per second.</td>
</tr>
<tr>
<td>Out Non-Unicasts/s</td>
<td>Number of non-unicasts sent out per second.</td>
</tr>
<tr>
<td>In Discards/s</td>
<td>Number of discards collected per second.</td>
</tr>
<tr>
<td>Out Discards/s</td>
<td>Number of discards sent out per second.</td>
</tr>
<tr>
<td>In Errors/s</td>
<td>Number of errors collected per second.</td>
</tr>
<tr>
<td>Out Errors/s</td>
<td>Number of errors sent out per second.</td>
</tr>
</tbody>
</table>
Step 2  To refresh the data in the table, click **Refresh**.

Step 3  Enter the interface name to filter in the Filter text box, then click **Filter**. The specified interface name is displayed.

---

**Related Topics**

- Viewing Port/Interface Details
- Viewing Real-Time Traffic Data from the Port/Interface Stats Table
- Viewing Reports from the Port/Interface Stats Table
- Viewing the Interface Stats Current Rates Table
- Viewing the Top N Interface Stats Chart

---

**Viewing Interface Details**

To view packet distribution details on a specific interface, click the interface number in the Interface column. The detail window displays with a chart that shows the total packet distribution on the specified interface.

**Related Topics**

- Viewing the Interface Stats Current Rates Table
- Viewing the Top N Interface Stats Chart
Viewing System Health

You can use the NAM Traffic Analyzer to view system health data. To view system health data collected for the switch or router, choose Monitor > Router or Monitor > Switch then select Health from the Content Menu.

Depending on the type of device, one of the following windows displays:

- Switch Health
- Router Health

Switch Health

The Switch Health window is displays with a drop-down menu that provides the following options:

- Switch Health
- Switch Information
- Crossbar Switching Fabric
- Ternary Content Addressable Memory Information

Switch Health

The Switch Health window displays two real-time graphs shown in Figure 4-14.
**Figure 4-35  Switch Health Window**

The Switch Health window also displays a matrix with the following information:

<table>
<thead>
<tr>
<th>Minor Alarm</th>
<th>Major Alarm</th>
<th>Temperature Alarm</th>
<th>Fan Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>off</td>
<td>off</td>
<td>off</td>
<td>OK</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Memory Type</th>
<th>Used (MB)</th>
<th>Free (MB)</th>
<th>Largest Free (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM</td>
<td>76.24 (60)%</td>
<td>51.65 (40)%</td>
<td>35.45</td>
</tr>
<tr>
<td>FLASH</td>
<td>16.08 (53)%</td>
<td>14.42 (47)%</td>
<td>14.42</td>
</tr>
<tr>
<td>NVRAM</td>
<td>0.35 (69)%</td>
<td>0.15 (31)%</td>
<td>0.15</td>
</tr>
<tr>
<td>HCLF</td>
<td>0.13 (03)%</td>
<td>4.16 (97)%</td>
<td>0.00</td>
</tr>
<tr>
<td>CLUSTER</td>
<td>1.80 (13)%</td>
<td>12.49 (87)%</td>
<td>0.00</td>
</tr>
<tr>
<td>MALLOC</td>
<td>14.74 (29)%</td>
<td>35.63 (71)%</td>
<td>35.45</td>
</tr>
</tbody>
</table>

**CPU usage within the last five seconds**

- **CPU type**
  - Usage for last 1 minute (%)
  - Usage for last 5 minutes (%)

**Traffic Bandwidth**

- **Peak %**
- **Peak Time** (For example: Mon Nov 29 2004, 15:26:55)

The Switch Health window also displays a matrix with the following information:

- Minor Alarm (on, off)
- Major Alarm (on, off)
- Temperature Alarm (on, off)
• Fan Status (other, ok, minorFault, majorFault, unknown)

**Table 4-50  Switch Memory Information**

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory Type</td>
<td>Type of memory including DRAM, FLASH, NVRAM, MBUF, CLUSTER, MALLOC.</td>
</tr>
<tr>
<td>Used</td>
<td>Number of used MB for a particular memory type.</td>
</tr>
<tr>
<td>Free</td>
<td>Number of free MB for a particular memory type.</td>
</tr>
<tr>
<td>Largest Free</td>
<td>Number of largest contiguous free MB for a particular memory type.</td>
</tr>
</tbody>
</table>

**Switch Information**

The Switch Information window displays as shown in Figure 4-14.

**Figure 4-36  Switch Information Window**

<table>
<thead>
<tr>
<th>Switch Information</th>
<th>Switch Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>nntlab-sup6.cisco.com.cisco.com</td>
</tr>
<tr>
<td>Hardware</td>
<td>Cisco Systems VS-C5509 8 slot switch</td>
</tr>
<tr>
<td>Backplane</td>
<td>giga16</td>
</tr>
<tr>
<td>Supervisor Software Version</td>
<td>CatOS Version 3.4(1)</td>
</tr>
<tr>
<td>UpTime</td>
<td>24 days, 5 hours, 09 minutes</td>
</tr>
<tr>
<td>Location</td>
<td>N/A</td>
</tr>
<tr>
<td>Contact</td>
<td>N/A</td>
</tr>
<tr>
<td>Modem</td>
<td>Disabled</td>
</tr>
<tr>
<td>Baud</td>
<td>9600</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>wssc1300</td>
<td>ok</td>
</tr>
<tr>
<td>2</td>
<td>none</td>
<td>other</td>
</tr>
</tbody>
</table>

**Power Redundancy Mode**

<table>
<thead>
<tr>
<th>Power Redundancy Mode</th>
<th>Total (centiAmpsAt42v)</th>
<th>Drawn (centiAmpsAt42v)</th>
</tr>
</thead>
<tbody>
<tr>
<td>redundant</td>
<td>2746</td>
<td>2368</td>
</tr>
</tbody>
</table>
### Table 4-51 Switch Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Name an administrator assigned to this managed node, this is the node's fully-qualified domain name.</td>
</tr>
<tr>
<td>Hardware</td>
<td>A textual description which should contain the manufacturer's name for the physical entity and be set to a distinct value for each version or model of the physical entity.</td>
</tr>
<tr>
<td>Backplane</td>
<td>The chassis backplane type.</td>
</tr>
<tr>
<td>Supervisor Software Version</td>
<td>The full name and version identification of the system's software operating-system and networking software.</td>
</tr>
<tr>
<td>UpTime</td>
<td>The time (in hundredths of a second) since the network management portion of the system was last re-initialized.</td>
</tr>
<tr>
<td>Location</td>
<td>The physical location of this node.</td>
</tr>
<tr>
<td>Contact</td>
<td>The textual identification of the contact person for this managed node and information on how to contact this person.</td>
</tr>
<tr>
<td>Modem</td>
<td>Indicates whether the RS-232 port modem control lines are enabled.</td>
</tr>
<tr>
<td>Baud rate</td>
<td>The baud rate in bits per second of the RS-232 port.</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Description of the power supply being instrumented.</td>
</tr>
<tr>
<td>Power Supply Type</td>
<td>The power supply source:</td>
</tr>
<tr>
<td></td>
<td>unknown</td>
</tr>
<tr>
<td></td>
<td>ac</td>
</tr>
<tr>
<td></td>
<td>dc</td>
</tr>
<tr>
<td></td>
<td>externalPowerSupply</td>
</tr>
<tr>
<td></td>
<td>internalRedundant</td>
</tr>
</tbody>
</table>
### Crossbar Switching Fabric

Shows Crossbar Switching Fabric information.

### Ternary Content Addressable Memory Information

Shows the Ternary Content Addressable Memory (TCAM) usage information shown in Figure 4-37.
Table 4-52 lists and describes the TCAM information.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security Acl Mask</td>
<td>Indicates that TCAM space is allocated to store ACL masks.</td>
</tr>
<tr>
<td>Security Acl Value</td>
<td>Indicates that TCAM space is allocated to store ACL value.</td>
</tr>
<tr>
<td>Dynamic Security Acl Mask</td>
<td>Indicates that TCAM space is allocated to dynamically store ACL masks.</td>
</tr>
<tr>
<td>Dynamic Security Acl Value</td>
<td>Indicates that TCAM space is allocated to dynamically store ACL values.</td>
</tr>
<tr>
<td>Qos Acl Mask</td>
<td>Indicates that TCAM space is allocated to store QoS masks.</td>
</tr>
<tr>
<td>Qos Acl Value</td>
<td>Indicates that TCAM space is allocated to store QoS value.</td>
</tr>
<tr>
<td>Dynamic Qos Acl Mask</td>
<td>Indicates that TCAM space is allocated to dynamically store QoS masks.</td>
</tr>
<tr>
<td>Dynamic Qos Acl Value</td>
<td>Indicates that TCAM space is allocated to dynamically store QoS values.</td>
</tr>
<tr>
<td>Layer 4 Port Operator</td>
<td>Indicates that TCAM space is allocated for layer 4 port operators purpose.</td>
</tr>
<tr>
<td>Interface Mapping Module</td>
<td>Indicates that TCAM space is allocated for interface mapping purpose.</td>
</tr>
</tbody>
</table>
Router Health

If your device is a router, the Router Health window is displayed with a drop-down box that provides the following options:

- Router Health
- Router Information

Router Health

The Router Health window displays a real-time graph and output information about the health of a router as shown in Figure 4-38.

**Figure 4-38 Router Health Window**

<table>
<thead>
<tr>
<th>Router Health</th>
<th>CPU usage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU Type</th>
<th>last 1 minute</th>
<th>last 5 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routing Processor</td>
<td>75%</td>
<td>74%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature Description</th>
<th>Temperature Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>chassis</td>
<td>normal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Failures</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Memory Type</th>
<th>Used (MB)</th>
<th>Free (MB)</th>
<th>Largest Free (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>7.72 (28%)</td>
<td>22.46 (74%)</td>
<td>21.30</td>
</tr>
<tr>
<td>I/O</td>
<td>2.10 (53%)</td>
<td>1.90 (57%)</td>
<td>1.88</td>
</tr>
</tbody>
</table>

**CPU usage within the last five seconds**

CPU
- Usage for last 1 minute (%)
- Usage for last 5 minutes (%)

**Temperature Description**

chassis

**Temperature Status**

- normal
- warning
- critical
- shutdown
- notPresent
- notFunctioning
- unknown

**Failures**

none

Memory Type

**Table 4-53 Router Memory Information**

<table>
<thead>
<tr>
<th>Memory Type</th>
<th>Type of memory including processor and I/O.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used</td>
<td>Number of used MB for a particular memory type.</td>
</tr>
<tr>
<td>Free</td>
<td>Number of free MB for a particular memory type.</td>
</tr>
<tr>
<td>Largest Free</td>
<td>Number of largest contiguous free MB for a particular memory type.</td>
</tr>
</tbody>
</table>

**Router Information**

The Router Information window displays router information as shown in Figure 4-39.
Table 4-54 lists and describes the fields of the Router Information window.

**Table 4-54  Router Information**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Name an administrator assigned to this managed node, this is the node's fully-qualified domain name.</td>
</tr>
<tr>
<td>Hardware</td>
<td>A textual description which should contain the manufacturer's name for the physical entity and be set to a distinct value for each version or model of the physical entity.</td>
</tr>
<tr>
<td>Supervisor Software Version</td>
<td>The full name and version identification of the system's software operating-system and networking software.</td>
</tr>
<tr>
<td>Up Time</td>
<td>The time (in hundredths of a second) since the network management portion of the system was last re-initialized.</td>
</tr>
<tr>
<td>Location</td>
<td>The physical location of this node.</td>
</tr>
<tr>
<td>Contact</td>
<td>The textual identification of the contact person for this managed node and information on how to contact this person.</td>
</tr>
</tbody>
</table>
You can use the NAM Traffic Analyzer to view Network Based Application Recognition (NBAR) data. To view the NBAR data collected for a switch or router, select **Monitor > Router** or **Switch > NBAR**.

The NBAR Current Rates Table is displayed with three radio buttons above it. You can click a radio button for:

- **Viewing the NBAR Current Rates Table**, page 4-137.
- **Viewing the Top N NBAR Chart**, page 4-138.
- **Viewing the NBAR Cumulative Data Table**, page 4-139.
Viewing the NBAR Current Rates Table

The NBAR Current Rates table allows you to view the protocol data collected for the device. The information displayed represents the data collected per second over the last time interval. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.

Procedure

Step 1  Click the Current Rates radio button.

The NBAR Current Rates Table (Table 4-55) is displayed.

Step 2  (Optional) Enter the protocol name to filter in the Filter text box, then click Filter.

The specified protocol is displayed.

Step 3  (Optional) Choose the interface name in the drop-down box.

The specified interface is displayed.

Step 4  (Optional) Select a protocol and click Real-Time.

A Real-Time graph of the specified protocol is displayed.

Tips
- To turn off auto refresh, deselect the Auto Refresh check box.

Table 4-55  NBAR Current Rates Table

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol/s</td>
<td>Protocol type.</td>
</tr>
<tr>
<td>In Packets/s</td>
<td>Number of packets collected per second.</td>
</tr>
<tr>
<td>Out Packets/s</td>
<td>Number of packets sent out per second.</td>
</tr>
<tr>
<td>In Bytes/s</td>
<td>Number of bytes collected per second.</td>
</tr>
<tr>
<td>Out Bytes/s</td>
<td>Number of bytes sent out per second.</td>
</tr>
<tr>
<td>In Bit rate/s</td>
<td>In bound bit rate per second.</td>
</tr>
<tr>
<td>Out Bit rate/s</td>
<td>Out bound bit rate per second.</td>
</tr>
</tbody>
</table>
Related Topics
- Viewing the NBAR Cumulative Data Table
- Viewing the Top N NBAR Chart

Viewing the Top N NBAR Chart

The NBAR Top N Chart allows you to view the various data collected for each protocol in a graphical format. The information displayed represents the data collected per second over the last time interval.

Procedure

Step 1
Click the TopN Chart radio button.

The Top N NBAR Chart (Figure 4-40) is displayed.

Figure 4-40 Top N NBAR Chart
### Viewing NBAR

#### Step 2
Select an interface from the Interface list:

#### Step 3
Select one of the following from the Variable list:
- In Packets/s—Sorts the interface number based on the number of in packets/s.
- Out Packets/s—Sorts the interface number based on the number of out packets/s.
- In Bytes/s—Sorts the interface number based on the number of in bytes/s.
- Out Bytes/s—Sorts the interface number based on the number of out bytes/s.
- In Bit Rate—Sorts the interface number based on the in bit rate.
- Out Bit Rate—Sorts the interface number based on the out bit rate.

#### Tip
To turn off auto refresh, deselect the Auto Refresh check box.

#### Related Topics
- Viewing the NBAR Current Rates Table
- Viewing the NBAR Cumulative Data Table

### Viewing the NBAR Cumulative Data Table

The NBAR Cumulative Data table allows you to view the various data collected for the switch or router. The information displayed represents the total data collected since the collection was created or since the NAM was restarted. For information on setting the time interval, see the “Setting Global Preferences for All Users” section on page 3-85.
**Procedure**

**Step 1**  
Click the Cumulative Data radio button.  
The NBAR Cumulative Data Table (Table 4-56) is displayed.

**Table 4-56 NBAR Cumulative Data Table**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol</td>
<td>Name of protocol.</td>
</tr>
<tr>
<td>In Packets/s</td>
<td>Number of packets collected per second.</td>
</tr>
<tr>
<td>Out Packets/s</td>
<td>Number of packets sent out per second.</td>
</tr>
<tr>
<td>In Bytes/s</td>
<td>Number of bytes collected per second.</td>
</tr>
<tr>
<td>Out Bytes/s</td>
<td>Number of bytes sent out per second.</td>
</tr>
<tr>
<td>In Bit rate/s</td>
<td>In bound bit rate per second.</td>
</tr>
<tr>
<td>Out Bit rate/s</td>
<td>Out bound bit rate per second.</td>
</tr>
</tbody>
</table>

**Step 2**  
(Optional) Enter the protocol name to filter in the Filter text box, then click **Filter**. The specified protocol is displayed.

**Step 3**  
(Optional) Choose the interface name in the drop-down box. The specified interface is displayed.

**Step 4**  
(Optional) Select a protocol and click **Real-Time**.  
A Real-Time graph of the specified protocol is displayed.

**Related Topics**

- Viewing the NBAR Current Rates Table
- Viewing the Top N NBAR Chart