SonicOSX 7

Real Time Charts

Administration Guide

SONICWALL®

Contents

1

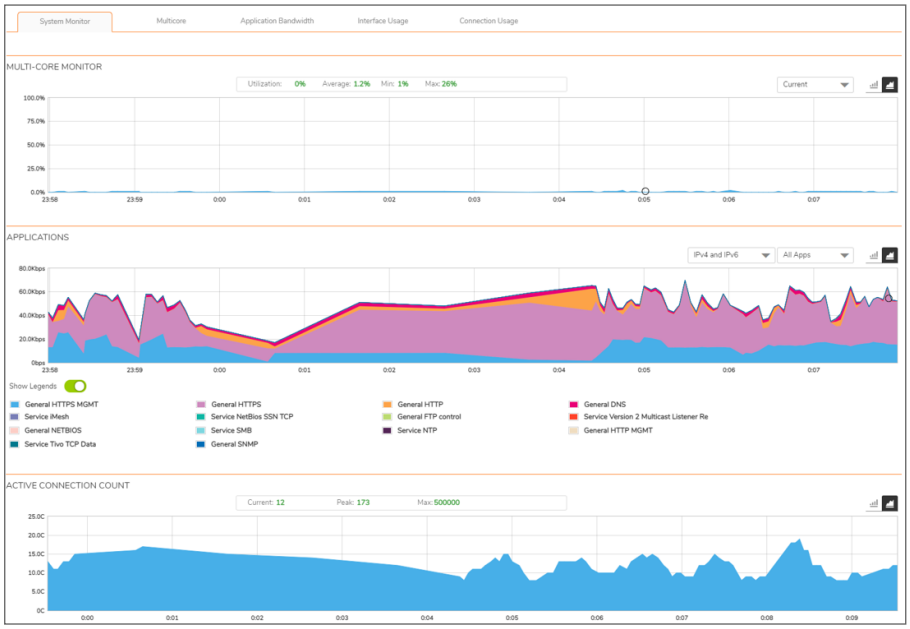
System Monitor

The **Real Time Charts > System Monitor** page provides a real-time, multi-functional display with information about hardware multi-core utilization, applications, bandwidth usage, packet rate, packet size, connection rate, and connection count.

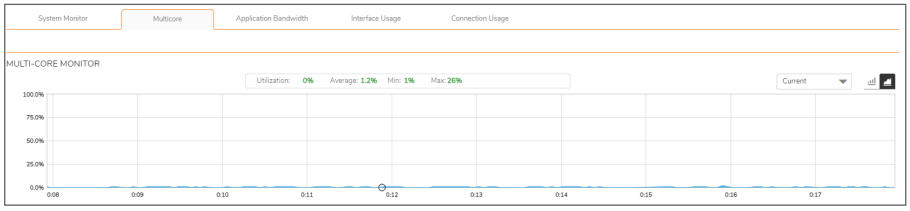
NOTE: A chart may be empty or blank if there are no recent data entries received within the viewing range.

There are five tabs displayed on the **System Monitor** page.

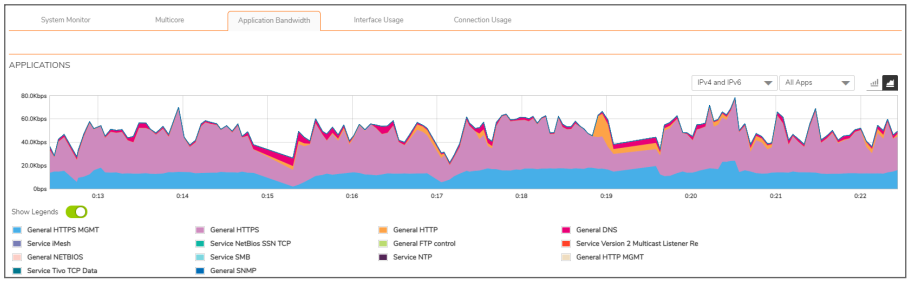
System Monitor



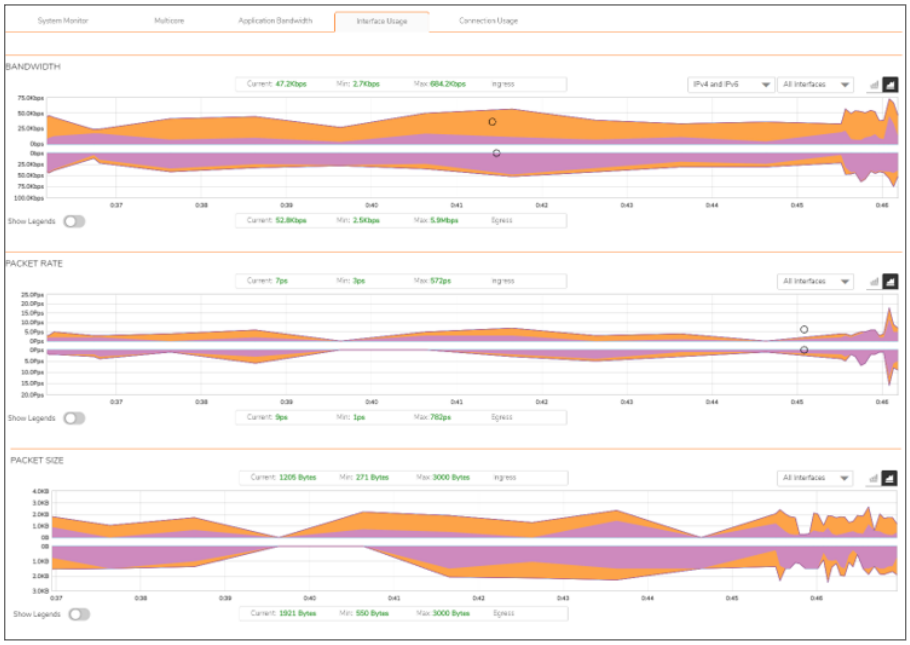
Multicore



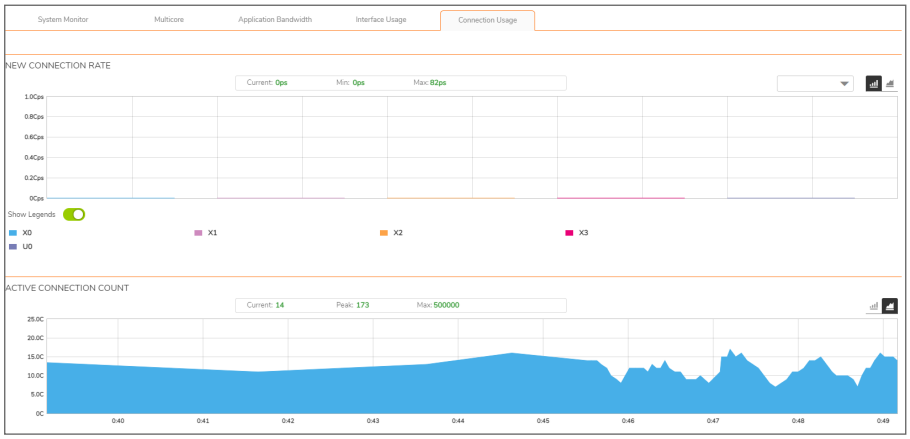
Application Bandwidth



Interface Usage

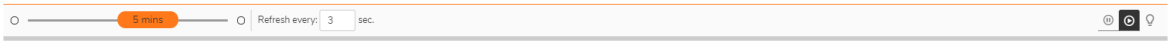


Connection Usage



Using the Toolbar

The **Policy Monitor** toolbar contains features to specify the refresh rate, change the amount of data displayed, and pause or play the data flow. Changes made to the toolbar apply across all the data flows.



PROTOCOL MONITOR TOOLBAR OPTIONS

Option	Widget	Description
Refresh Rate	Refresh every: 3 sec	Determines the frequency at which data is refreshed. A numerical integer between 1 to 10 seconds is required. The default is **3** seconds.
View Range	5 mins	Displays data pertaining to a specific span of time. The **View Range** is configurable in 60 seconds, 2 minutes, 5 minutes, and 10 minutes. The default is **2** minutes.
Pause		Freezes the data flow. The **Pause** button appears black if the data flow has been frozen.
Play		Unfreezes the data flow. The time entries at the bottom of the tables will refresh as soon as the data flow is updated. The **Play** button appears black if the data flow is live.
Tips		Mouse over a data point to see values at that instant.

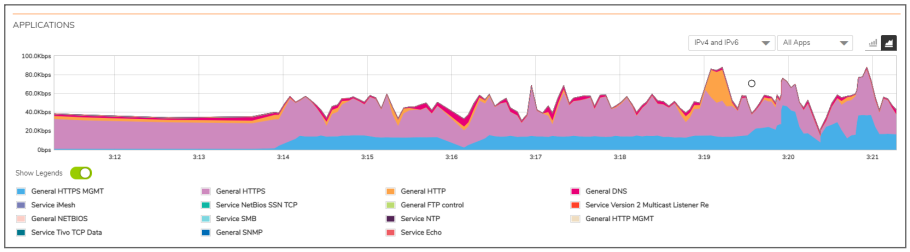
Common Features

Topics:

- Legends
- Tooltips
- Changing Chart Format
- Selecting IPv6/IPv4
- Current, Minimum, Maximum Display

Legends

Most charts display a legend that shows the name and color used for the applications.

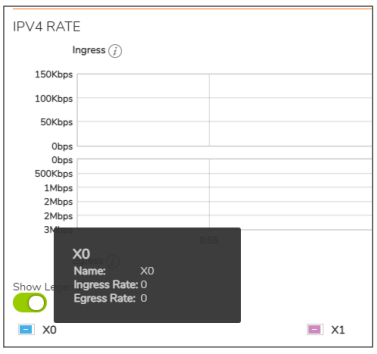


Tooltips

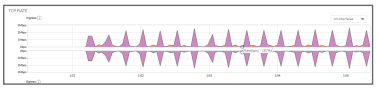
Various elements of the charts have associated tool-tips:

- The name of each chart has two tool-tip icons that briefly describe the ingress and egress information in the chart.

- Legend items display information about the item the legend represents.



- A small circle displays information about a precise moment on the chart.



To display a tool-tip, hover your mouse over the desired item or click on the chart. The information displayed varies by chart.

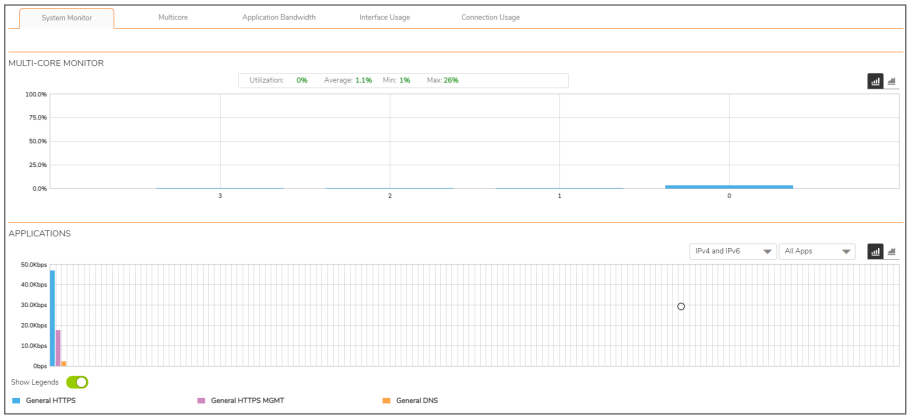
Changing Chart Format

You are able to view individual charts in either bar chart format or stacked (area) chart format. Each chart has Chart Format icons in the upper right corner of the chart  . The default is stack chart format.

Bar Chart

The bar chart format displays applications individually, thus allowing you to compare applications. In this chart, the applications, interfaces, or core monitors are arranged along the x-axis, for applications and interfaces according to the color code shown in the Legend. The y-axis displays information appropriate to the chart, such as the amount of traffic for each application or interface. To display the data in bar chart format, click on the **Bar Chart** icon  .

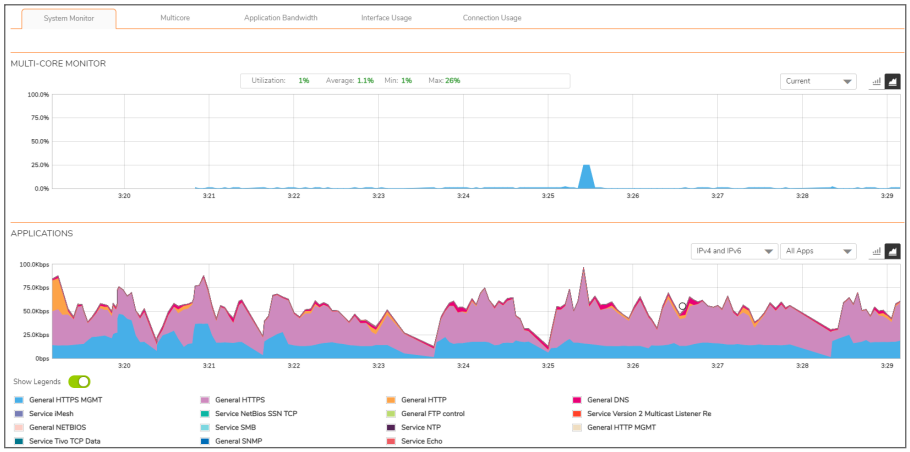
The following example is a Bar Chart view.



Stacked Chart

The stack chart format displays over-lapping data in a stacked format as it occurs. In this chart, the x-axis displays the current time and the y-axis displays information appropriate to the chart, such as the amount of traffic for each application or the rate or size of the packets. To display data in the stack chart format, click the **Stacked Chart** icon  .

The following example is a Stacked Chart view.

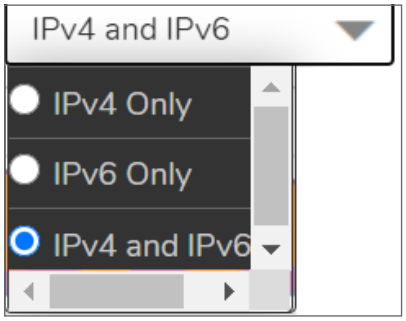


Selecting IPv6/IPv4

For complete information on the SonicOS implementation of IPv6, see the *IPv6* section of the *SonicOS System Setup* technical documentation.

ⓘ | **NOTE:** This option applies only to the Applications and Ingress/Egress Bandwidth charts.

Live Monitor is configured the same in IPv6 and IPv4; select a radio button in the drop-down menu to change the view/configuration:



- IPv4 Only
- IPv6 Only
- IPv4 and IPv6

Current, Minimum, Maximum Display

All charts, except **Applications**, display the current, minimum, and maximum values for the chart. The values vary by chart and can be in Mbps, Kbps, Pps (packets per second), Bytes, or Cps (connections per second).

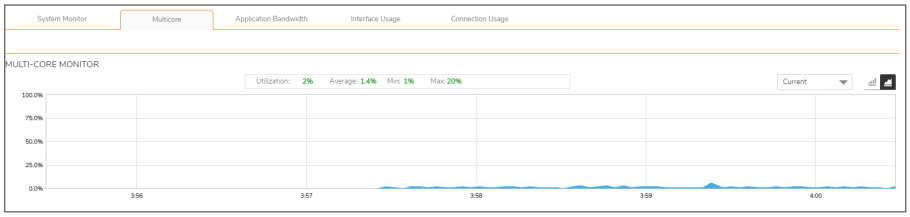
For the **Ingress/Egress** charts, the information is displayed for both halves, the Ingress on the top and the Egress on the bottom. For the other charts, the information is displayed on the top.

Multicore Monitor

The **Multicore Monitor** displays dynamically updated statistics on utilization of the individual cores of the firewall. The information is shown either for combined data in flow chart format or for individual cores in bar chart format. Core 1 through core 8 handle the control plane. Core 1 through core 8 usage is displayed in green on the Multi-Core Monitor. The remaining cores handle the data plane. To maximize processor flexibility, functions are not dedicated to specific cores; instead all cores can process all data plane tasks. Memory is shared across all cores. Each core can process a separate flow simultaneously, allowing for up to 88 flows to be processed in parallel.

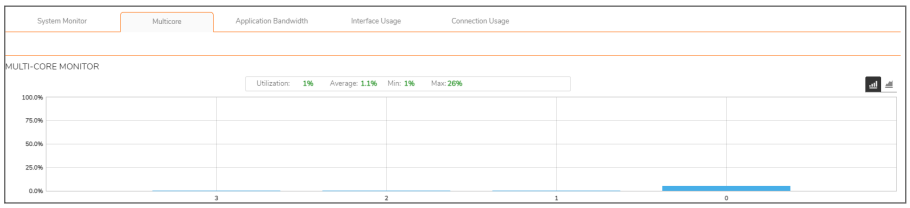
Stacked Chart

In the stacked chart format the x-axis displays the current time, and the y-axis displays the percentage of CPU used.



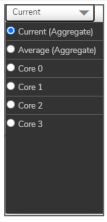
Bar Chart

The bar chart format displays data pertaining to individual cores. The x-axis displays the cores while the y-axis displays the percentage of CPU used.



Options

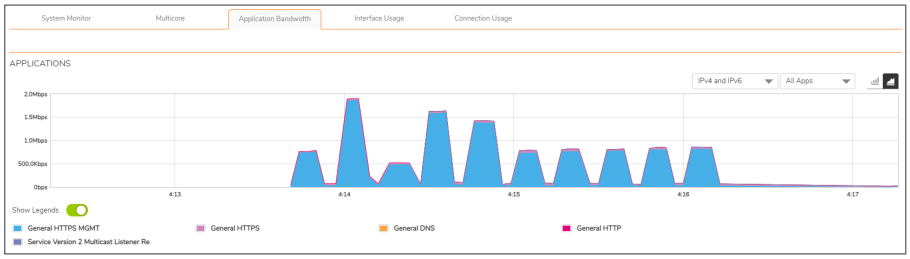
The following option is specific to the **Multicore** chart. For other options and display features, see Common Features.

Option	Widget	Description
Aggregate Display		Specifies which Cores are displayed in the Multi-Core Monitor Flow Chart. A drop-down menu allows you to specify **Current (Aggregate)**, **Average (Aggregate)**, and individual Cores. The individual Cores vary, depending on the number of Cores available. Multiple Cores can be selected.

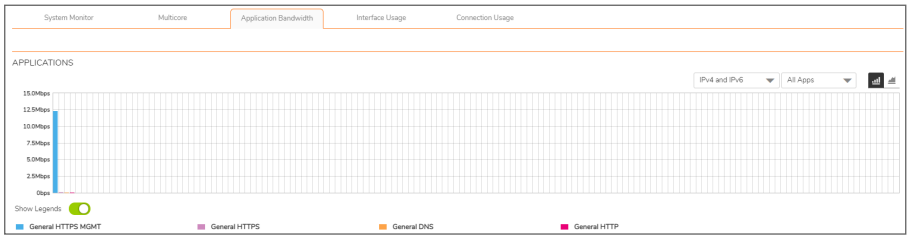
Applications Bandwidth Monitor

The Applications data flow provides a visual representation of the current applications accessing the network.

Stacked Chart

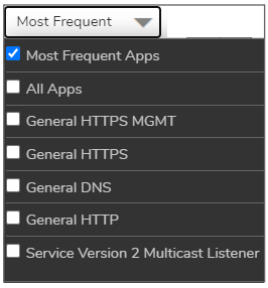


Bar Chart



Options

The following option is specific to the **Applications** chart. For other options and display features, see Common Features.

Option	Widget	Description
Lock		Locks the Display for the Applications chart. The lock/unlock option is available when you select **Most Frequent Apps**. Most Frequent Apps displays the top 25 apps; you can use the lock or unlock option to keep the report from altering the top 25 apps.
Unlock		Unlocks the Display for the Applications chart.
Application Display		Specifies the applications displayed in the Application Flow Chart. A drop-down menu allows you to specify **Most Frequent Apps**, **All Apps**, or individual applications. If desired, multiple applications can be selected by clicking more than one check box.

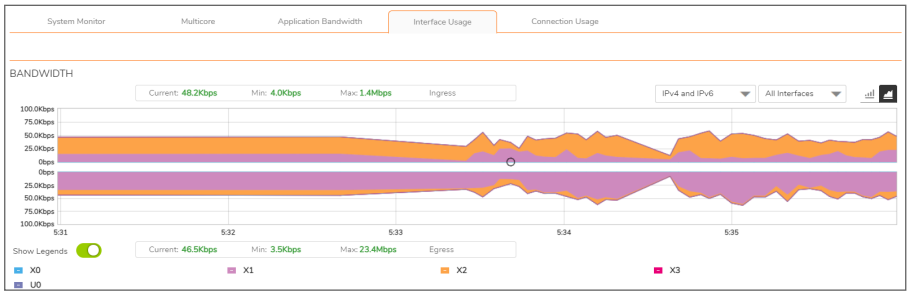
Interface Usage

The Ingress / Egress Bandwidth data stacked chart provides a visual representation of incoming (Ingress) and outgoing (Egress) bandwidth traffic. The current percentage of total bandwidth used, and the minimum and maximum amount of traffic that has gone through each interface is available in the display.

ⓘ | **NOTE:** The Bandwidth charts have no direct correlation to the Application charts.

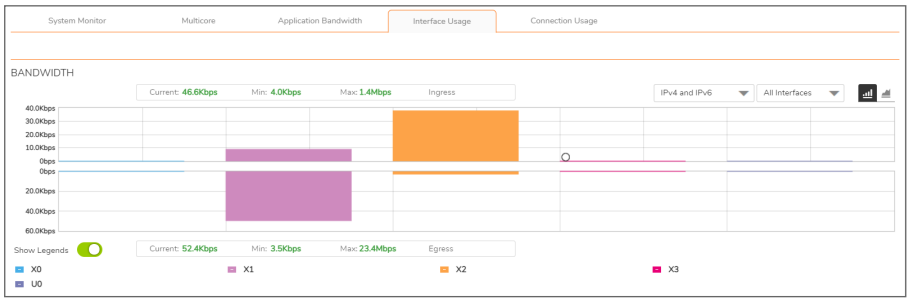
Stacked Chart

The stacked chart format allows you to view all of the Ingress and Egress Bandwidth traffic as it occurs. The x-axis displays the current time, and the y-axis displays the Ingress and Egress Bandwidth traffic.



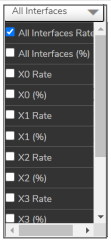
Bar Chart

The bar chart format displays data pertaining to individual interfaces in a bar chart; allowing comparisons of individual Bandwidth Interfaces. In this chart, the x-axis denotes the Interfaces whereas the y-axis denotes the Ingress and Egress Bandwidth traffic.



Options

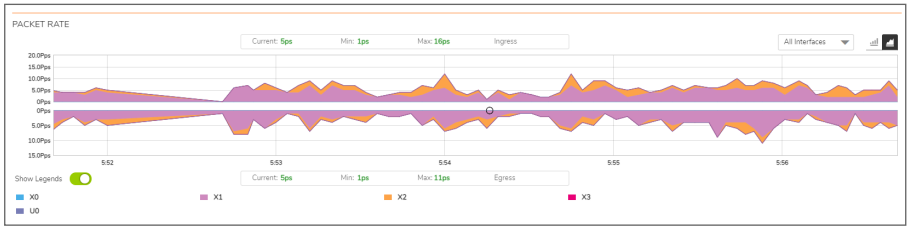
The following option is specific to the **Interface Usage** chart. For other options and display features, see Common Features.

Option	Widget	Description
Interface Rate Display		Specifies which Interfaces are displayed in the Bandwidth Flow Chart. A drop-down menu provides options to specify **All Interfaces Rate**, **All Interfaces (%)**, or rate or percentage (%) for individual interfaces. The individual interfaces vary depending on the number of interfaces on the network. Multiple interfaces can be selected if desired.

Packet Rate Monitor

The **Ingress / Egress Packet Rate** monitor provides information on the ingress and egress packet rate as packets per second (pps). This can be configured to show packet rate by network interface. The chart shows the current packet rate, minimum packet rate, and maximum packet rate for both ingress and egress network traffic.

Stacked Chart

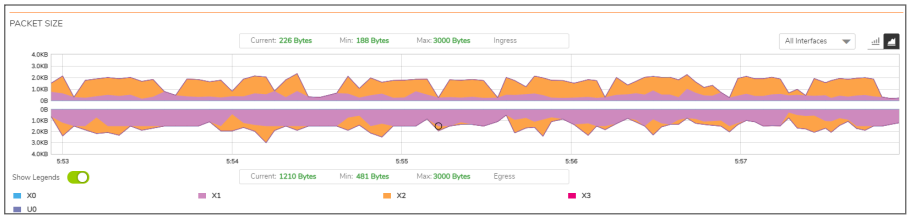


Bar Chart

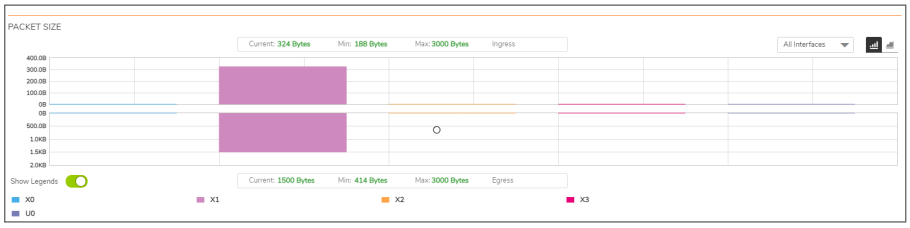
Packet Size Monitor

The **Ingress / Egress Packet Size** monitor provides information on the ingress and egress packet size in bytes (B). This can be configured to show packet size by network interface. The chart shows the current packet size, minimum packet size, and maximum packet size for both ingress and egress network traffic.

Stacked Chart



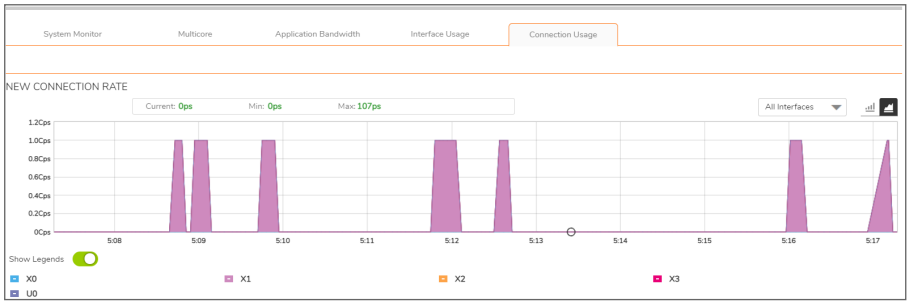
Bar Chart



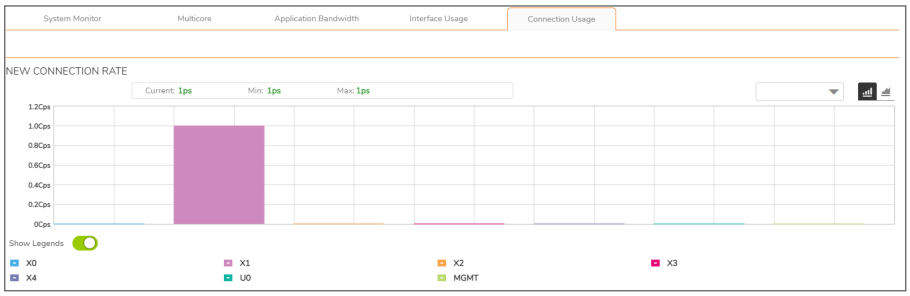
Connection Usage Monitor

The **Connection Usage** Monitor is plotted by collecting the outgoing and incoming connection rates for each interface every refresh period. When looking at the combined connection rate of more than one interface at the same time, it may appear double than the actual connection rate. A single connection between a pair of interfaces is counted for both interfaces.

Stacked Chart



Bar Chart

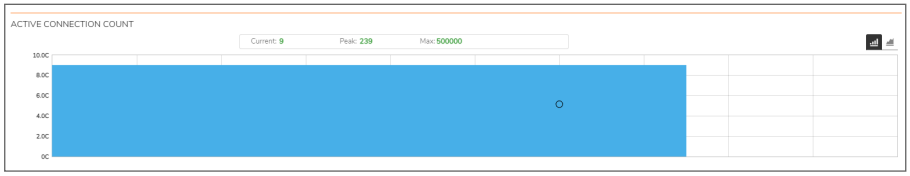


Connection Count Monitor

The **Connection Count** Monitor provides a visual representation of the active total number of connections, peak number of connections, and maximum number of connections. The y-axis displays the total number of connections from 0C (zero connections) to 1KC (one kilo connections).

Stacked Chart

Bar Chart



ⓘ | **NOTE:** The **Connection Count** Monitor does not have legends.

2

Protocol Monitor

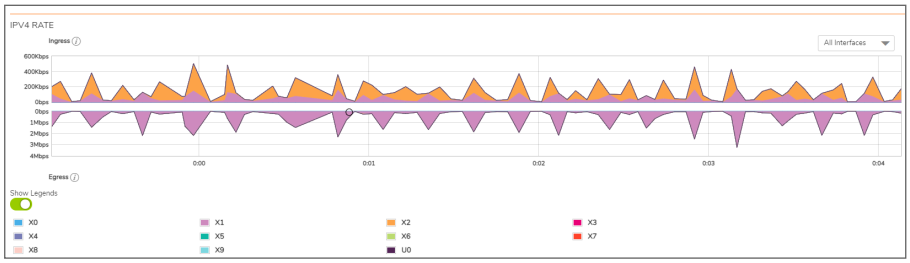
The **Real Time Charts > Protocol Monitor** page displays real-time charts showing ingress and egress traffic rates for the following protocols:

IPv4	Internet Protocol version 4
ARP	Address Resolution Protocol, used by IPv4 to map IP network addresses to link layer hardware addresses
IPv6	Internet Protocol version 6
UDP	User Datagram Protocol, a connection-less protocol used for example by DNS, SNMP, RIP, DHCP
TCP	Transmission Control Protocol, a connection oriented protocol allowing bidirectional traffic once the connection is established, used for example by FTP, SSH, Telnet, and also by DNS
ICMP	Internet Control Message Protocol, used by network devices to send error messages and operational information; ping uses ICMP to send echo request packets to a host
IGMP	Internet Group Management Protocol, used by hosts and routers to establish multicast group memberships

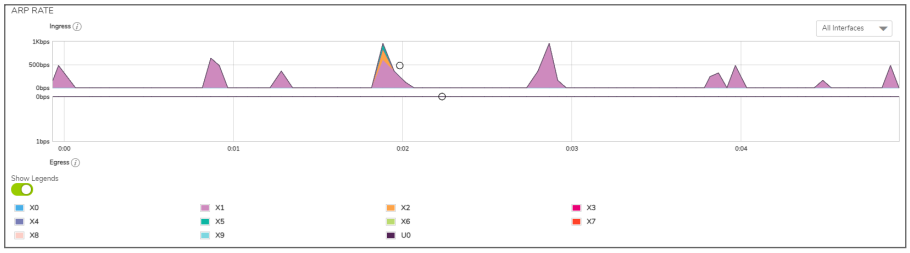
The seven real-time charts displayed on the **Protocol Monitor** page are shown in the images below. The **Ingress** rate is displayed on the top half of each chart, and the **Egress** rate is displayed on the bottom.

NOTE: A chart may be empty or blank if there are no recent data entries received within the viewing range.

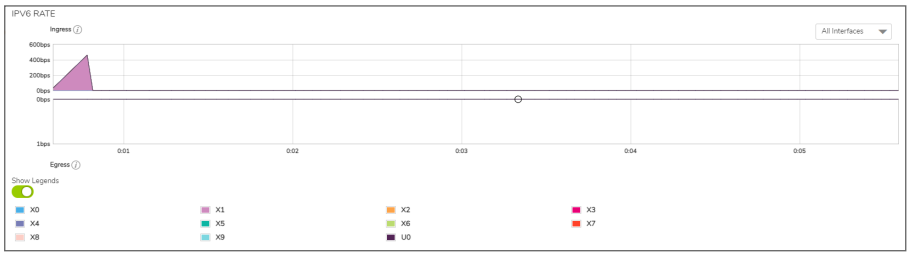
PROTOCOL MONITOR - IPV4 CHART



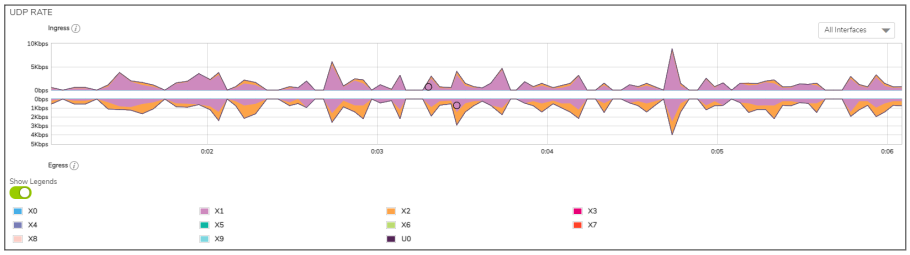
PROTOCOL MONITOR - ARP CHART



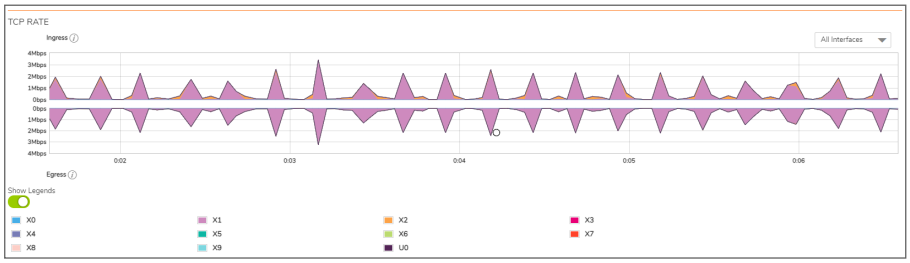
PROTOCOL MONITOR - IPV6 CHART



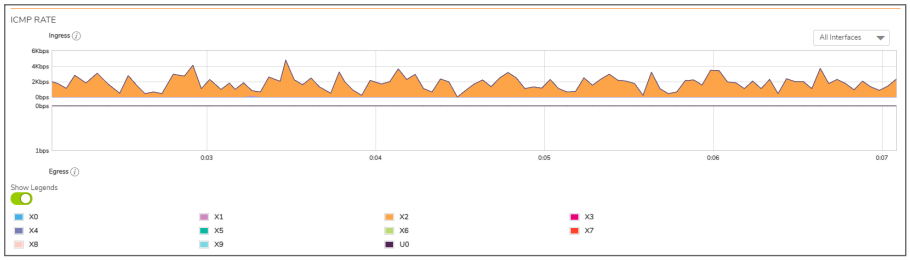
PROTOCOL MONITOR - UDP CHART



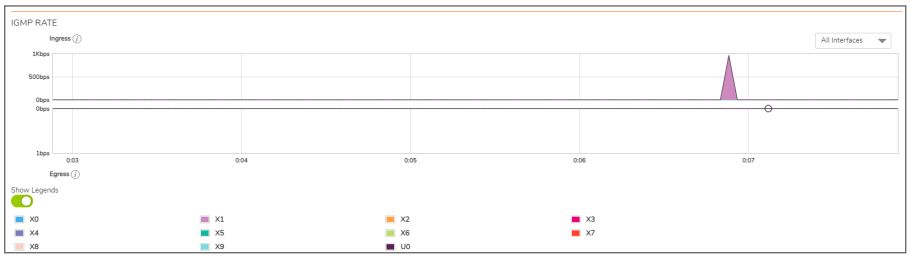
PROTOCOL MONITOR - TCP CHART



PROTOCOL MONITOR - ICMP CHART

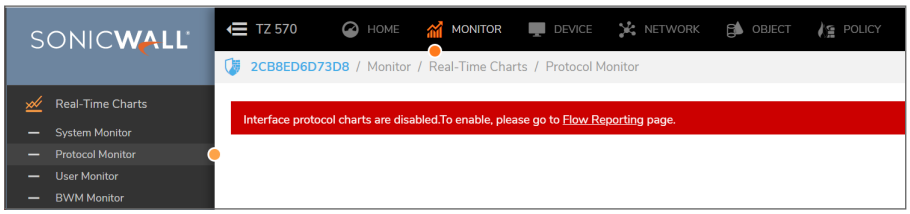


PROTOCOL MONITOR - IGMP CHART



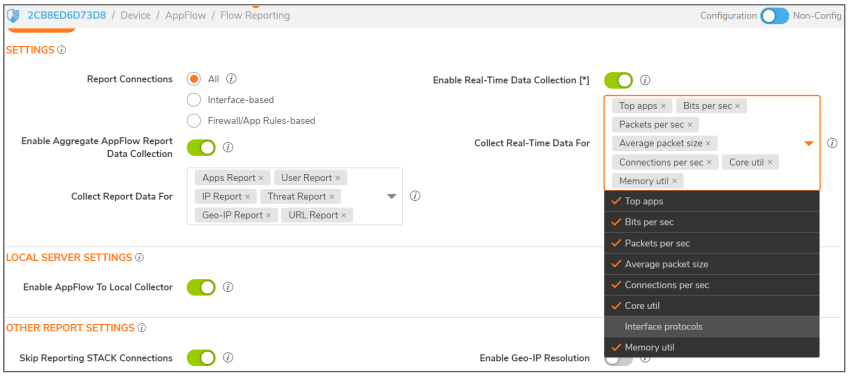
Enabling the Protocol Monitor

The first time you access the Protocol Monitor, it is disabled.



To enable the Protocol Monitor and start displaying statistics in the different charts:

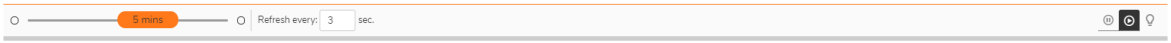
1. Click on the **Flow Reporting** page link.
   You will be navigated to **Device > App Flow > Flow Reporting** page.
2. In the **Settings** tab, select **Interface protocols** option from the **Collect Real-Time Data For** drop-down and click **Accept**.



The settings are enabled, and statistics are displayed in the **Protocol Monitor** page.

Using the Toolbar

The Protocol Monitor toolbar contains features to specify the refresh rate, change the amount of data displayed, and pause or play the data flow. Changes made to the toolbar apply across all the data flows.



PROTOCOL MONITOR TOOLBAR OPTIONS

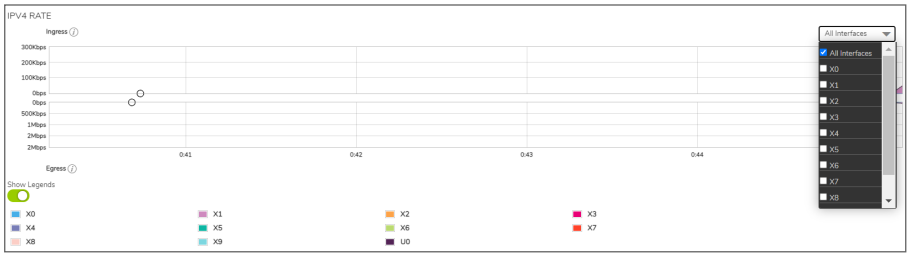
Option	Widget	Description
Refresh Rate	Refresh every: 3 sec	Determines the frequency at which data is refreshed. A numerical integer between 1 to 10 seconds is required. The default is **3** seconds.
View Range	5 mins	Displays data pertaining to a specific span of time. The **View Range** is configurable in 60 seconds, 2 minutes, 5 minutes, and 10 minutes (default).
Pause		Freezes the data flow. The **Pause** button appears black if the data flow has been frozen.
Play		Unfreezes the data flow. The time entries at the bottom of the tables will refresh as soon as the data flow is updated. The **Play** button appears black if the data flow is live.
Tips		Mouse over a data point to see values at that instant.

Using Per-Chart Viewing Options

Topics:

Legends

Each chart displays a legend that shows the name and color used for the interfaces selected in the chart's display options drop-down menu. To view the chart, select the interfaces from **All Interfaces** drop-down and toggle the **Show Legend**s option.

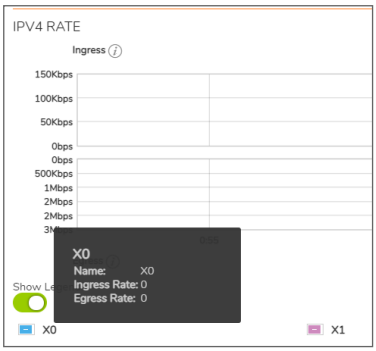


Tooltips

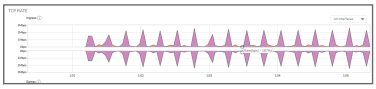
Various elements of the charts have associated tool-tips:

- The name of each chart has two tool-tip icons that briefly describe the ingress and egress information in the chart.

- Legend items display information about the item the legend represents.



- A small circle displays information about a precise moment on the chart.



To display a tool-tip, hover your mouse over the desired item or click on the chart. The information displayed varies by chart.

3

Policy Monitor

The **Real Time Charts > Policy Monitor** page provides a real-time, multi-functional display with information about security, NAT, Route, Decryption, and DoS policies.

NOTE: A chart may be empty or blank if there are no recent data entries received within the viewing range.

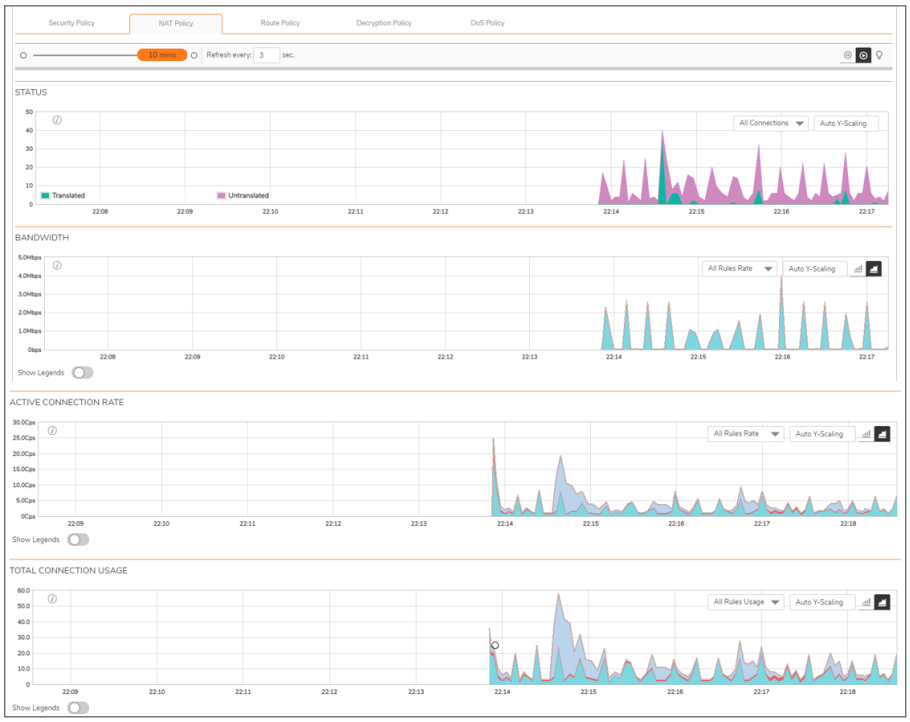
There are five tabs displayed on the **Policy Monitor** page.

Security Policy

To view the Security Policy chart, you must configure and enable a policy under **Policy > Rules and Policies > Security Policy**.

NAT Policy

To view the NAT Policy chart, you must configure and enable a policy under **Policy > Rules and Policies > NAT Policy**.

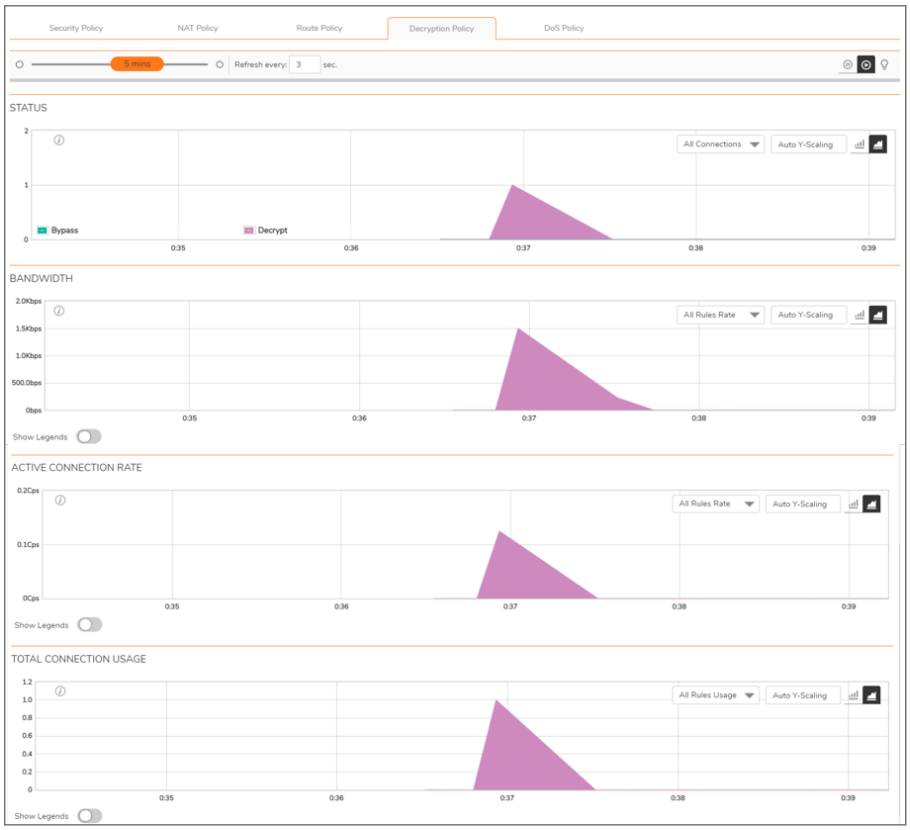


Route Policy

To view the Route Policy chart, you must configure and enable a policy under **Policy > Rules and Policies > Route Policy**.

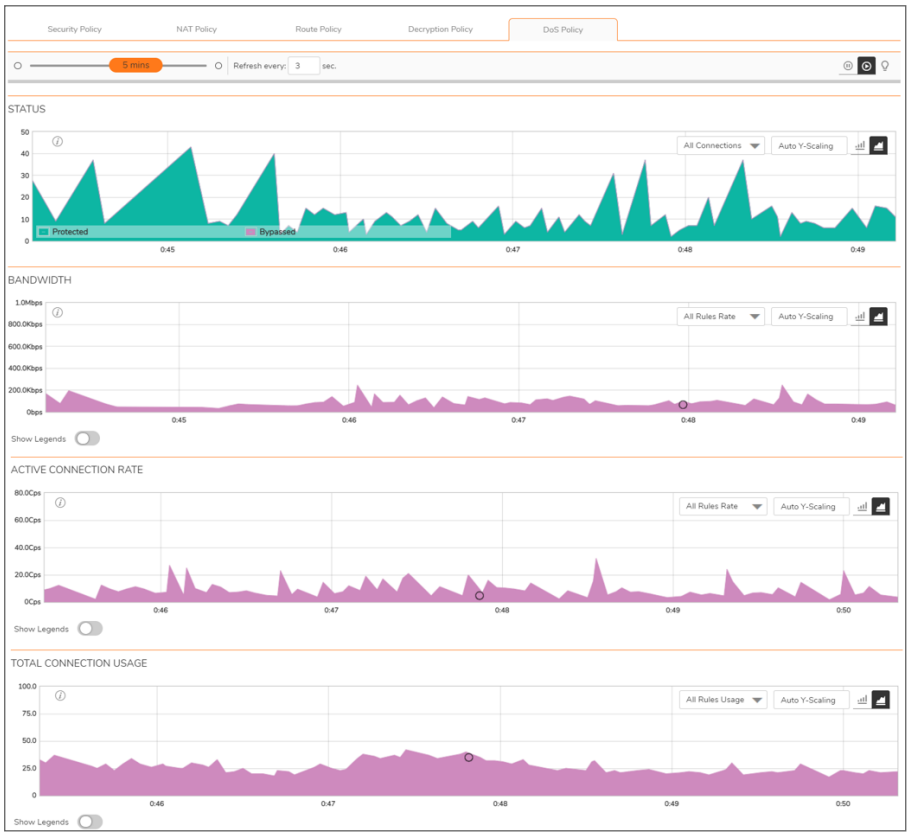
Decryption Policy

To view the Decryption Policy chart, you must configure and enable a policy under **Policy > Rules and Policies > Decryption Policy**.



DoS Policy

To view the DoS Policy chart, you must configure and enable a policy under **Policy > Rules and Policies > DoS Policy**.



Using the Toolbar

The **Policy Monitor** toolbar contains features to specify the refresh rate, change the amount of data displayed, and pause or play the data flow. Changes made to the toolbar apply across all the data flows.

PROTOCOL MONITOR TOOLBAR OPTIONS

Option	Widget	Description
Refresh Rate	Refresh every: 3 sec	Determines the frequency at which data is refreshed. A numerical integer between 1 to 10 seconds is required. The default is **3** seconds.
View Range	5 mins	Displays data pertaining to a specific span of time. The **View Range** is configurable in 60 seconds, 2 minutes, 5 minutes, and 10 minutes. The default is **2** minutes.

Pause		Freezes the data flow. The **Pause** button appears black if the data flow has been frozen.
Play		Unfreezes the data flow. The time entries at the bottom of the tables will refresh as soon as the data flow is updated. The **Play** button appears black if the data flow is live.
Tips		Mouse over a data point to see values at that instant.

Common Features

Topics:

- Legends
- Tooltips
- Changing Chart Format
- Scaling a Chart

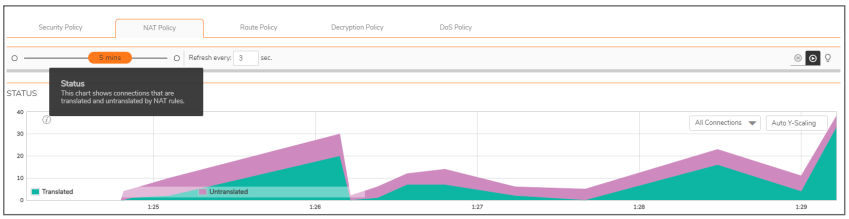
Legends

Most charts display a legend that shows the name and color used for the policies.

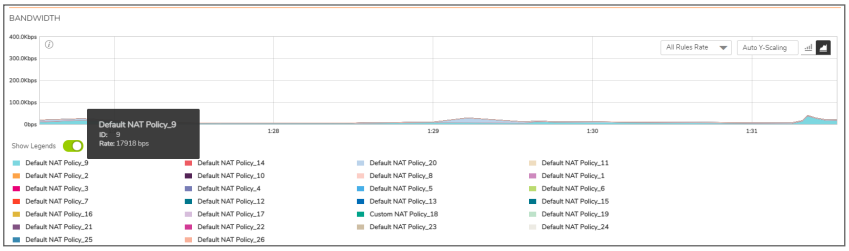
Tooltips

Various elements of the charts have associated tool-tips:

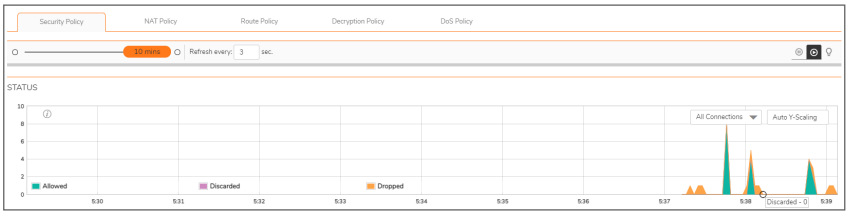
- The name of the chart has a tool-tip icon that briefly describe the chart.



- Legend items display information about the item the legend represents.



- A small circle displays information about a precise moment on the chart.



To display a tool-tip, hover your mouse over the desired item or click on the chart. The information displayed varies by chart.

Changing Chart Format

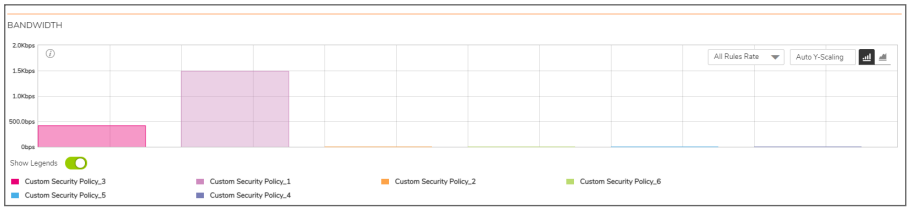
You are able to view individual charts in either bar chart format or stacked (area) chart format. Each chart has Chart Format icons in the upper right corner of the chart  . The default is stack chart format.

Bar Chart

The bar chart format displays applications individually, thus allowing you to compare policies. In this chart, the policies or rules arranged along the x-axis according to the color code shown in the Legend. The y-axis displays information appropriate to the chart, such as the amount of traffic for each policy.

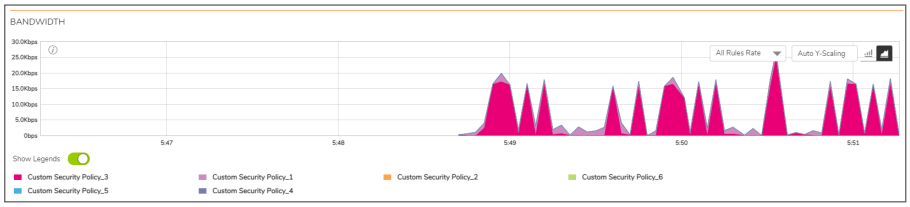
To display the data in bar chart format, click on the **Bar Chart** icon .

The following example is a Bar Chart view.



Stacked Chart

The stack chart format displays over-lapping data in a stacked format as it occurs. In this chart, the x-axis displays the current time and the y-axis displays information appropriate to the chart, such as the amount of traffic for each policy. To display data in the stack chart format, click the **Stacked Chart** icon . The following example is a Stacked Chart view.



Scaling a Chart

The Scale box, , to the upper right of each chart, allows for automatic y-axis scaling or custom scaling of a chart.

- Auto (default) – Auto Y-Scaling, where the y-axis is scaled so it is just large enough to show the maximum data in the chart.
- <num>[<unit>] – The values for customized scaling must be a numeric integer. Specifying a unit is optional. If a unit is desired, four options are available:
  - K for Kilo
  - M for Mega
  - G for Giga
  - % for Percentage

  For example, if a custom scale of 100Kbps is desired, then 100K should be entered: The numeric integer 100 followed by the unit K.

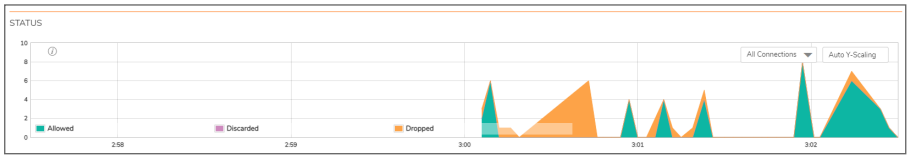
  ⓘ | **NOTE:** An invalid entry results in the default, Auto Y-Scaling, being used.

Security Policy

To view the Security Policy chart, you must configure and enable a policy under **Policy > Rules and Policies > Security Policy**.

Status

The Status chart displays connections that are allowed, discarded, and dropped by the rules configured. The x-axis displays the current time and the y-axis displays the number of policies that are allowed, discarded, and dropped.



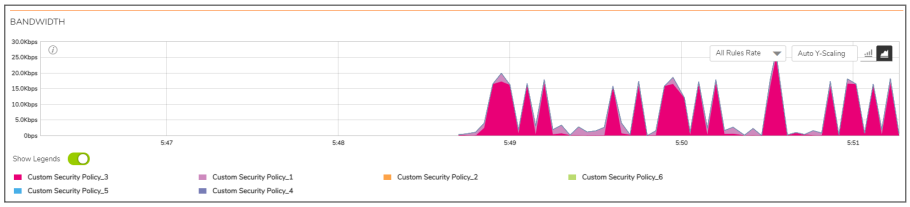
NOTE: The Status chart is displayed in stacked format and does not have legends.

Bandwidth

Bandwidth chart is plotted by collecting number of bytes per rule traversing through the firewall every refresh period.

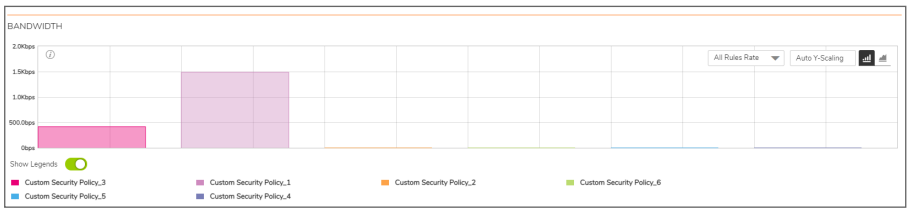
Stacked Chart

In the stacked chart, the x-axis displays the current time and the y-axis displays the amount of traffic for each policy in Kbps or bps (kilobits or bits per second).



Bar Chart

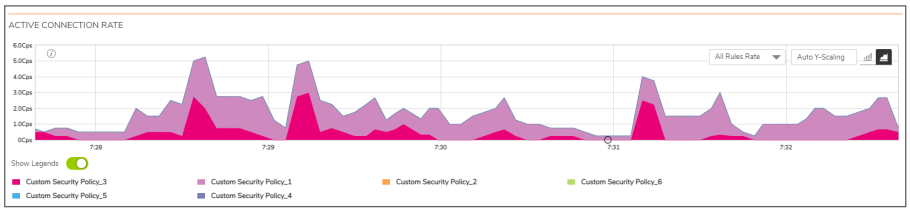
The bar chart format displays policies individually along the x-axis according to the color code shown in the legend. The y-axis displays information appropriate to the chart, such as the amount of traffic for each policy in Kbps or bps (kilobits or bits per second).



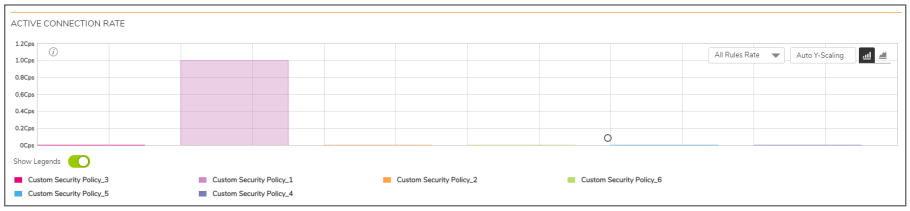
Active Connection Rate

The Active Connection Rate chart provides a visual representation of the current total number of outgoing and incoming connection rate for each rule in Cps (Connections per second).

Stacked Chart



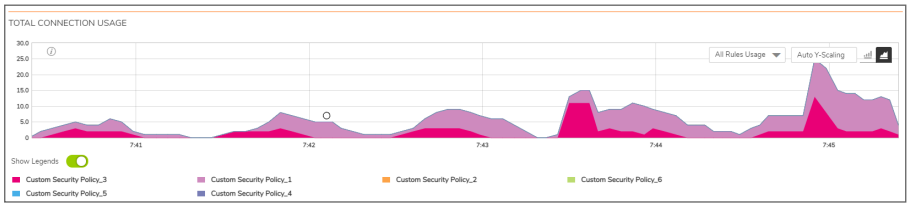
Bar Chart



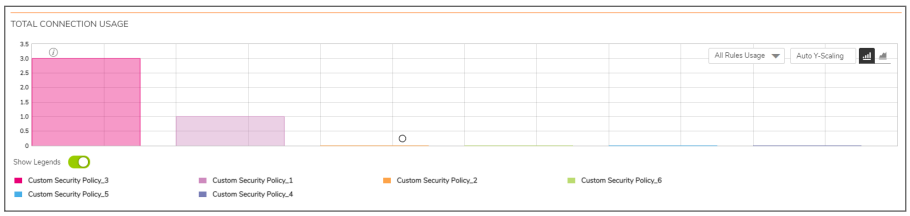
Total Connection Usage

The Connection Usage chart provides a visual representation of the total number of connections per rule.

Stacked Chart



Bar Chart

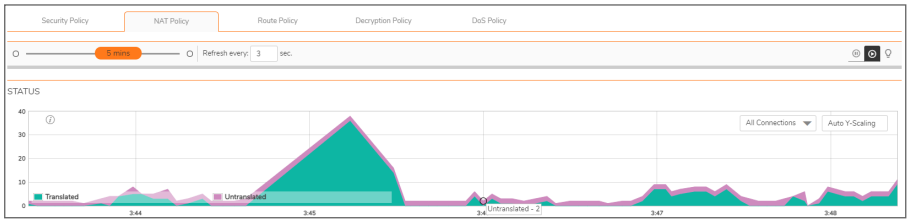


NAT Policy

To view the NAT Policy chart, you must configure and enable a policy under **Policy > Rules and Policies > NAT Policy**.

Status

The Status chart displays connections that are translated and untranslated by NAT rules. The x-axis displays the current time and the y-axis displays the number of policies that are translated and untranslated by NAT rules.



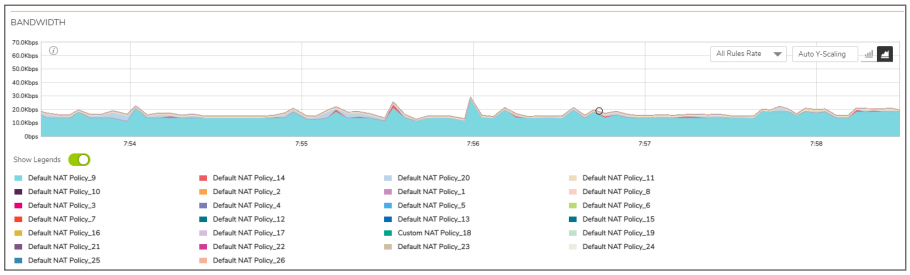
NOTE: The Status chart is displayed in stacked format and does not have legends.

Bandwidth

Bandwidth chart is plotted by collecting number of bytes per rule traversing through the firewall every refresh period.

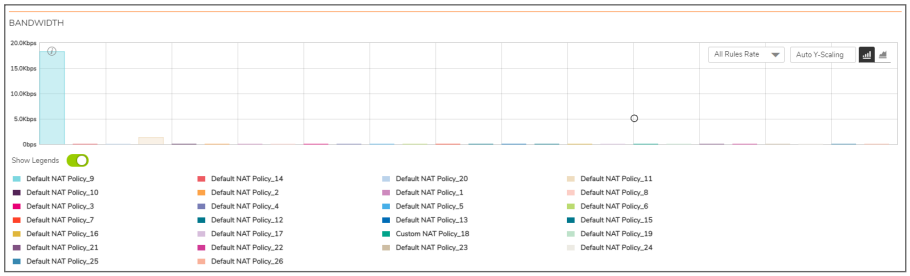
Stacked Chart

In the stacked chart, the x-axis displays the current time and the y-axis displays the amount of traffic for each policy in Kbps or bps (kilobits or bits per second).



Bar Chart

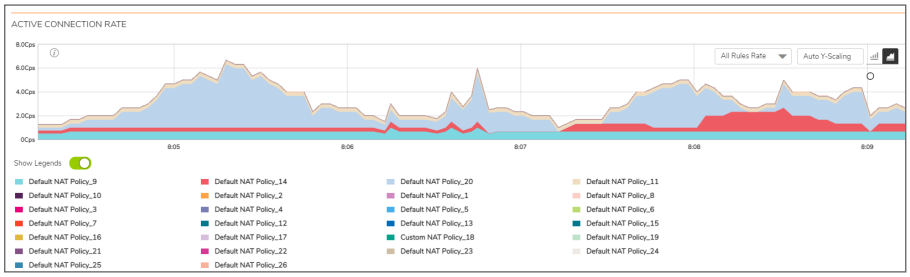
The bar chart format displays policies individually along the x-axis according to the color code shown in the legend. The y-axis displays information appropriate to the chart, such as the amount of traffic for each policy in Kbps or bps (kilobits or bits per second).



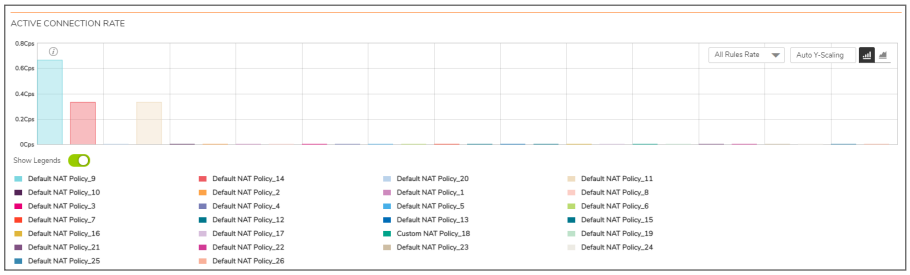
Active Connection Rate

The Active Connection Rate chart provides a visual representation of the current total number of outgoing and incoming connection rate for each rule in Cps (Connections per second).

Stacked Chart



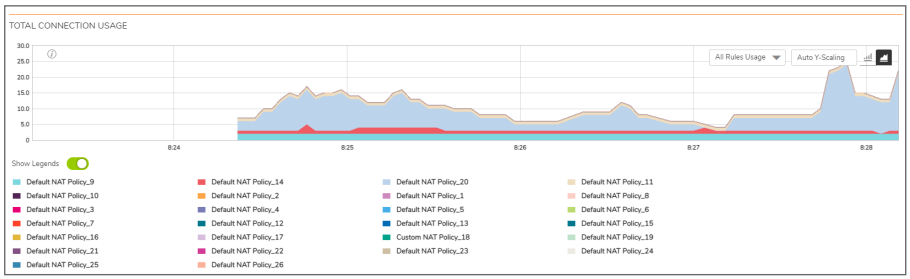
Bar Chart



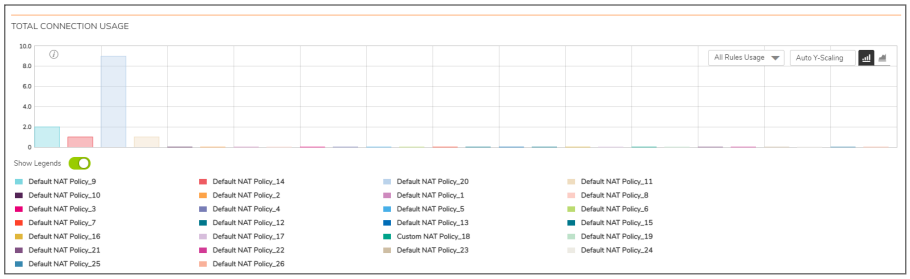
Total Connection Usage

The Connection Usage chart provides a visual representation of the total number of connections per rule.

Stacked Chart



Bar Chart



Route Policy

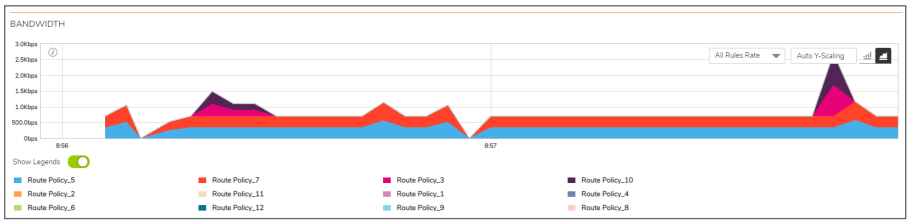
To view the Route Policy chart, you must configure and enable a policy under **Policy > Rules and Policies > Route Policy**.

Bandwidth

Bandwidth chart is plotted by collecting number of bytes per rule traversing through the firewall every refresh period.

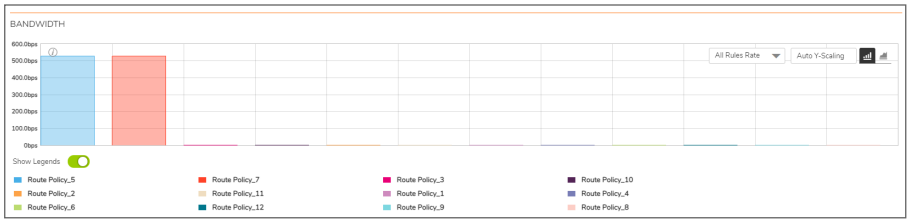
Stacked Chart

In the stacked chart, the x-axis displays the current time and the y-axis displays the amount of traffic for each policy in Kbps or bps (kilobits or bits per second).



Bar Chart

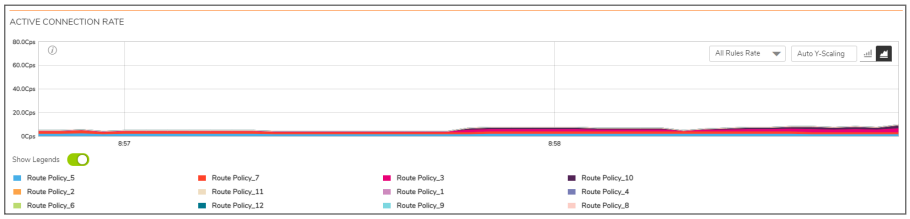
The bar chart format displays policies individually along the x-axis according to the color code shown in the legend. The y-axis displays information appropriate to the chart, such as the amount of traffic for each policy in Kbps or bps (kilobits or bits per second).



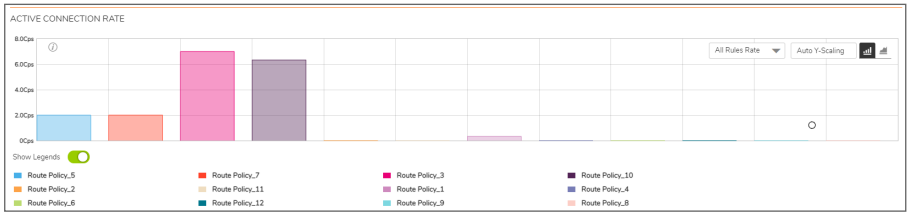
Active Connection Rate

The Active Connection Rate chart provides a visual representation of the current total number of outgoing and incoming connection rate for each rule in Cps (Connections per second).

Stacked Chart



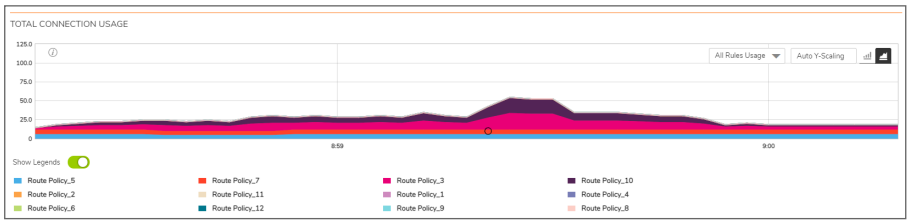
Bar Chart



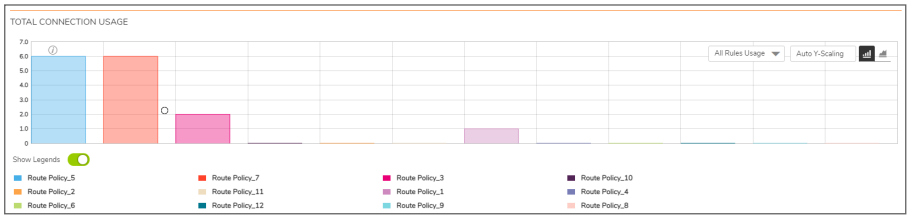
Total Connection Usage

The Connection Usage chart provides a visual representation of the total number of connections per rule.

Stacked Chart



Bar Chart

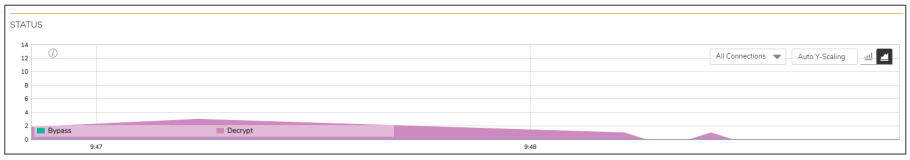


Decryption Policy

To view the Decryption Policy chart, you must configure and enable a policy under **Policy > Rules and Policies > Decryption Policy**.

Status

The Status chart displays connections that are bypassed and decrypted by decryption rules. The x-axis displays the current time and the y-axis displays the number of policies that are bypassed and decrypted by decryption rules.



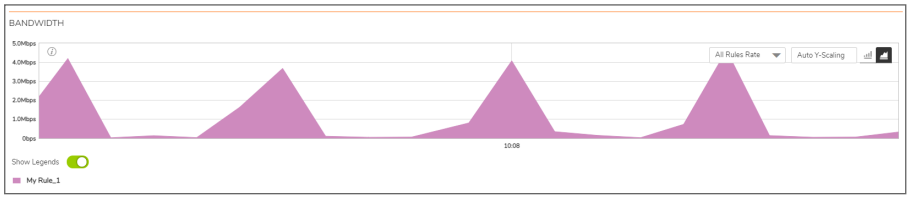
ⓘ | **NOTE:** The Status chart is displayed in stacked format and does not have legends.

Bandwidth

Bandwidth chart is plotted by collecting number of bytes per rule traversing through the firewall every refresh period.

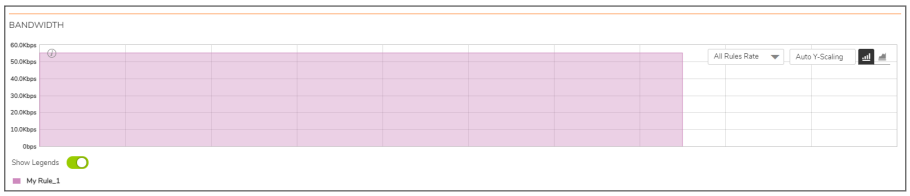
Stacked Chart

In the stacked chart, the x-axis displays the current time and the y-axis displays the amount of traffic for each policy in Kbps or bps (kilobits or bits per second).



Bar Chart

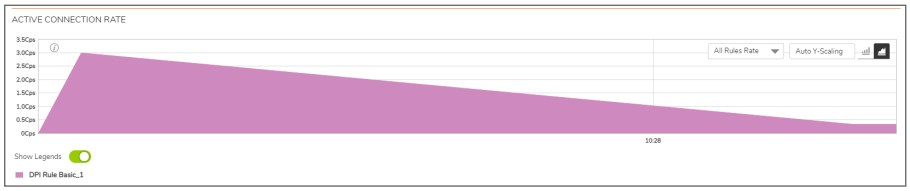
The bar chart format displays policies individually along the x-axis according to the color code shown in the legend. The y-axis displays information appropriate to the chart, such as the amount of traffic for each policy in Kbps or bps (kilobits or bits per second).



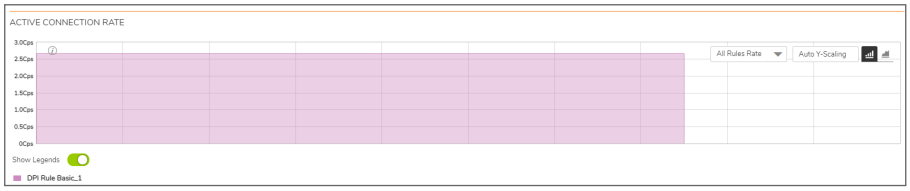
Active Connection Rate

The Active Connection Rate chart provides a visual representation of the current total number of outgoing and incoming connection rate for each rule in Cps (Connections per second).

Stacked Chart



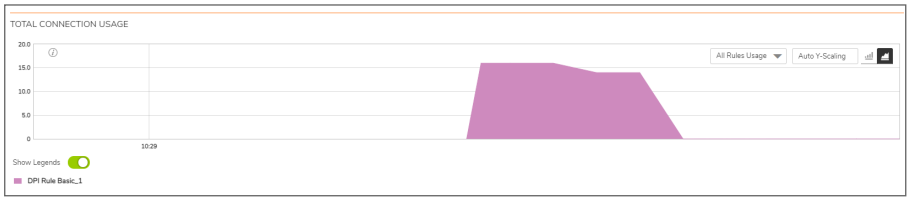
Bar Chart



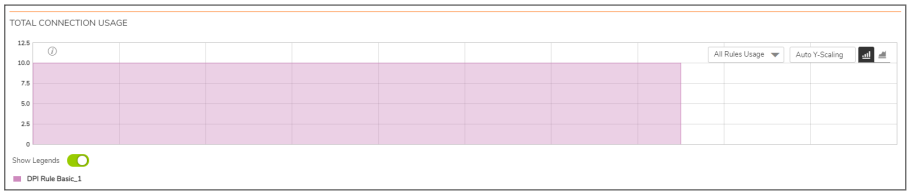
Total Connection Usage

The Connection Usage chart provides a visual representation of the total number of connections per rule.

Stacked Chart



Bar Chart

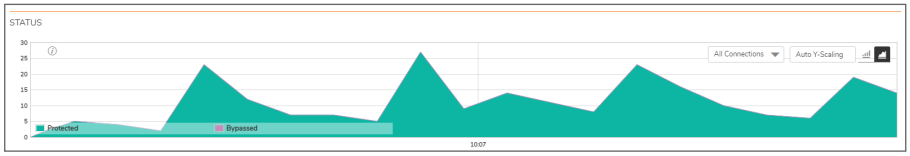


DoS Policy

To view the DoS Policy chart, you must configure and enable a policy under **Policy > Rules and Policies > DoS Policy**.

Status

The Status chart displays connections that are protected and bypassed by DoS rules. The x-axis displays the current time and the y-axis displays the number of policies that are protected and bypassed by DoS rules.



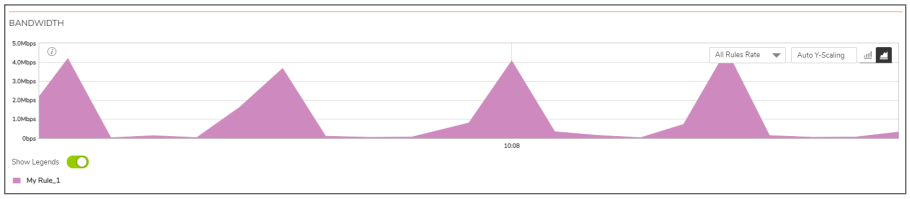
ⓘ | **NOTE:** The Status chart is displayed in stacked format and does not have legends.

Bandwidth

Bandwidth chart is plotted by collecting number of bytes per rule traversing through the firewall every refresh period.

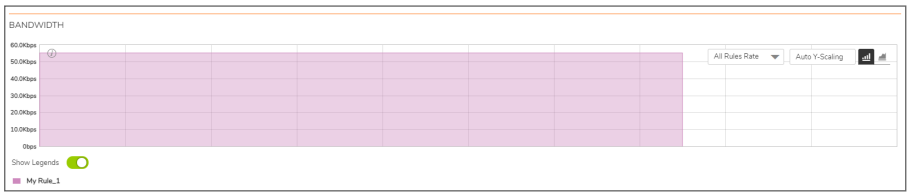
Stacked Chart

In the stacked chart, the x-axis displays the current time and the y-axis displays the amount of traffic for each policy in Kbps or bps (kilobits or bits per second).



Bar Chart

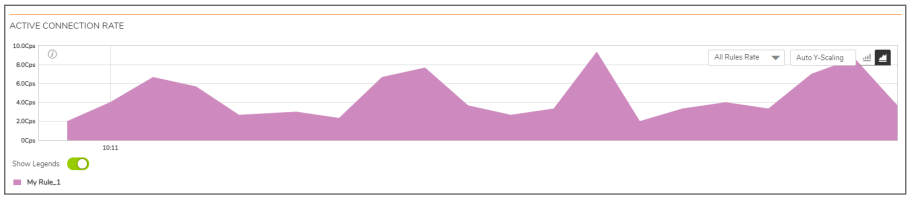
The bar chart format displays policies individually along the x-axis according to the color code shown in the legend. The y-axis displays information appropriate to the chart, such as the amount of traffic for each policy in Kbps or bps (kilobits or bits per second).



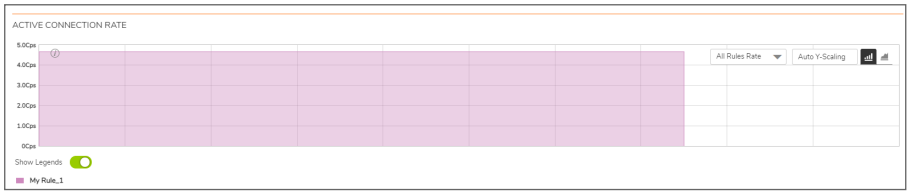
Active Connection Rate

The Active Connection Rate chart provides a visual representation of the current total number of outgoing and incoming connection rate for each rule in Cps (Connections per second).

Stacked Chart



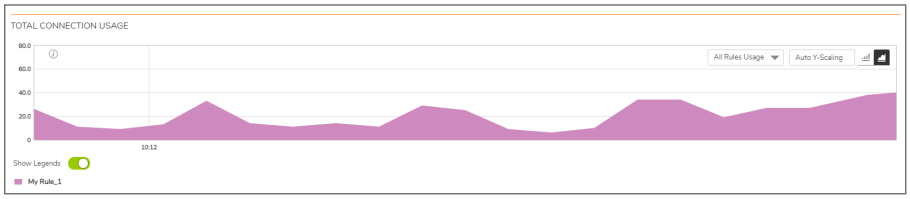
Bar Chart



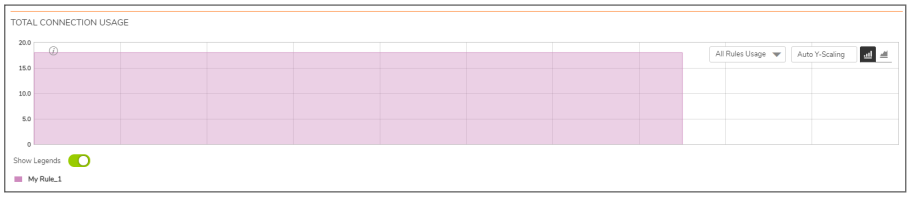
Total Connection Usage

The Connection Usage chart provides a visual representation of the total number of connections per rule.

Stacked Chart



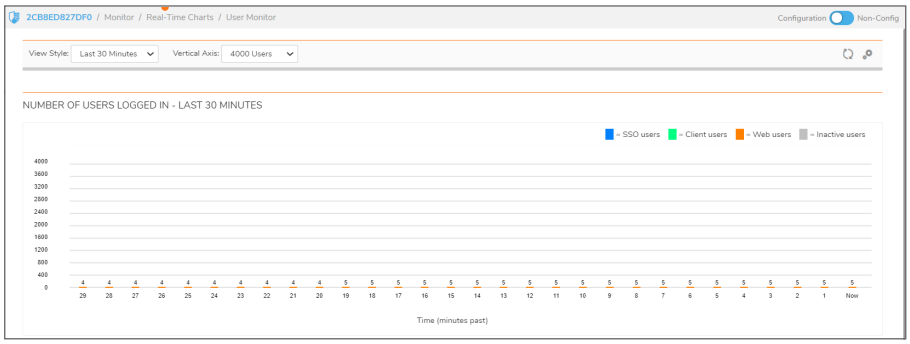
Bar Chart



4

User Monitor

The **Real Time Charts > User Monitor** page provides a quick and easy method to monitor the number of active users on the SonicWall security appliance.



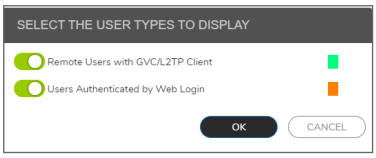
The **User Monitor** page provides these options to customize the display of recent user activity in the User Monitor table:

- **View Style**: Sets the scale of the X-axis, which displays the duration of time. The available options are:
  - Last 30 Minutes
  - Last 24 Hours
  - Last 30 Days
- **Vertical Axis**: Sets the scale of the Y-axis, which displays the number of users. The available options reflect the number of users. For example, two different systems would have different options.

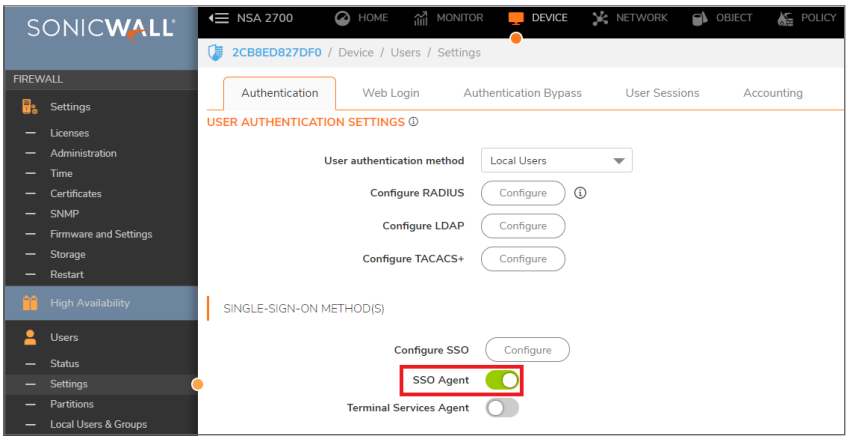
  EXAMPLE OF OPTIONS FOR Y-AXIS BASED ON NUMBER OF USERS

Few Users	Many Users
10	800
100	8000
1000	80000

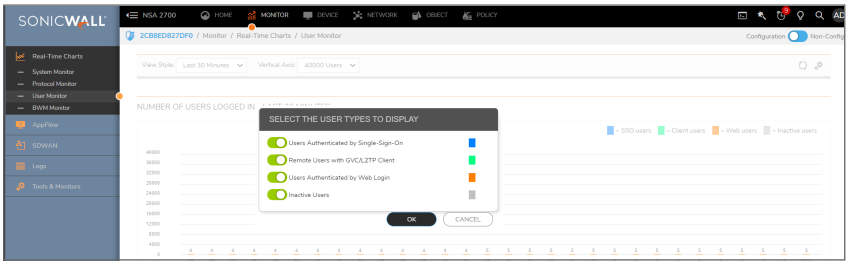
- **Select User Types** icon : Displays a pop-up window, where you can select the types of users to be displayed, indicated by the associated color.



By default, the above two options are displayed. If you wish to display inactive users and users authenticated by Single-Sign-On method, navigate to **Device > Users > Settings** and enable **SSO Agent** option and click **Accept**.



When **SSO Agent** is enabled, the options **Inactive Users** and **Users Authenticated by Single-Sign-on** are displayed, indicated by the associated color.



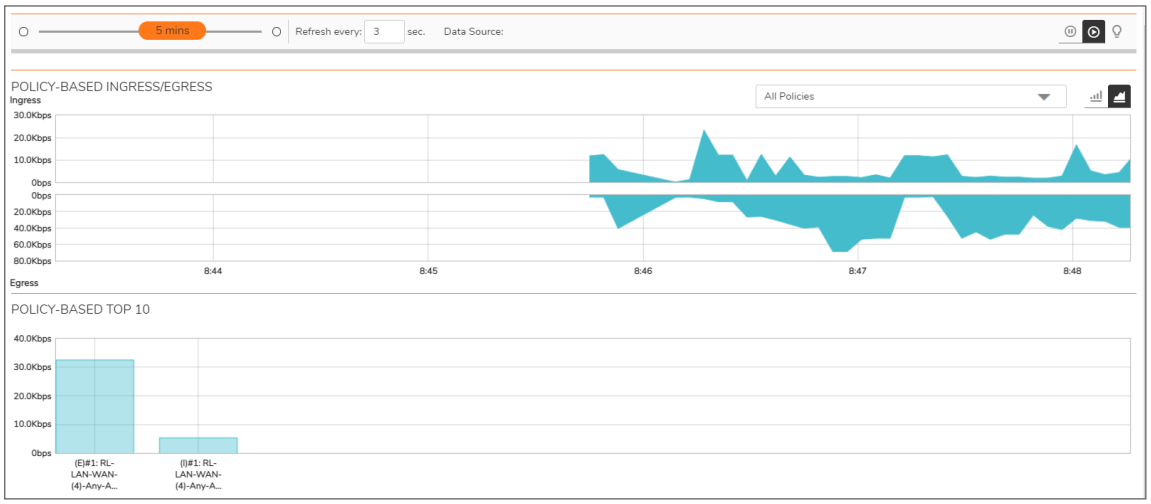
- Users Authenticated by Single-Sign-On (blue)
- Remote Users with GVC/L2TP Client (green)
- Users Authenticated by Web Login (orange)
- Inactive Users (grey)

- **Refresh** icon : Refreshes the User Monitor chart.

5

Bandwidth Monitor

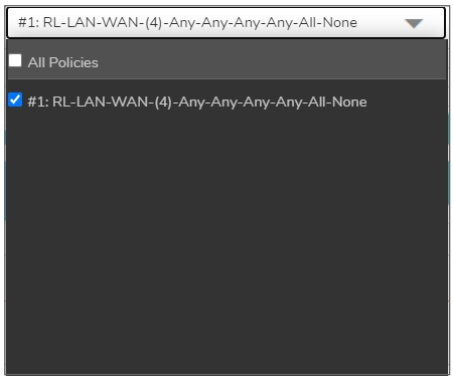
The **Real Time Charts > BWM Monitor** page displays policy-based bandwidth usage for ingress and egress network traffic, and a second chart with the top 10 for policy-based bandwidth usage.



The Bandwidth Monitor charts are available for All Policies or for selected policies in the drop-down policies list next to the chart. The refresh interval rate is configurable from 3 to 30 seconds. The bandwidth management priority is depicted by guaranteed, maximum, and dropped. The following display settings and configurable controls are available on this page:

Option	Widget	Description
Refresh every	Refresh every: 3 sec	Determines the frequency at which data is refreshed. A numerical integer between 1 to 10 seconds is required. The default is **3** seconds.
View Range	5 mins	Displays data pertaining to a specific span of time. The **View Range** is configurable in 60 seconds, 2 minutes, 5 minutes, and 10 minutes (default).

Pause		Freezes the data flow. The time and date will also freeze. The **Pause** button appears black if the data flow has been frozen.
Play		Unfreezes the data flow. The time and date will refresh as soon as the data flow is updated. The **Play** button appears black if the data flow is live.
Stacked Chart		Click the **Stacked Chart** icon to display the chart in flow (area) chart format. The x-axis displays the current time and the y-axis displays the amount of ingress and egress traffic in Mbps.
Bar Chart		Click the **Bar Chart** icon to display the chart in bar chart format. The x-axis displays Rules in the Policy-Based Ingress/Egress chart and the names of the top 10 policies for bandwidth usage in the Policy-Based Top 10 chart. The y-axis displays the amount of ingress and egress traffic in Mbps. The Policy-Based Top 10 chart is always displayed as a bar chart with one bar for each policy.

Policies display		Specifies which Policies are displayed in the Policy-Based Ingress/Egress chart. A drop-down menu allows you to specify All Policies or select individual policies. The individual policies vary depending on the configured policies available. Multiple policies can be selected.

Enabling BWM Monitor

Bandwidth Management policies are configured from the **Policy > Rules and Policies > Access Rules** page.

To view the BWM chart, edit the access rule for which you want to view the BWM chart and under **Traffic Shaping** tab, select the **Egress BWM**, **Ingress BWM**, and enable **Track Bandwidth Usage** options.

6

SonicWall Support

Technical support is available to customers who have purchased SonicWall products with a valid maintenance contract.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. To access the Support Portal, go to https://www.sonicwall.com/support.

The Support Portal enables you to:

- View knowledge base articles and technical documentation
- View and participate in the Community forum discussions at https://community.sonicwall.com/technology-and-support.
- View video tutorials
- Access https://mysonicwall.com
- Learn about SonicWall professional services
- Review SonicWall Support services and warranty information
- Register for training and certification
- Request technical support or customer service

To contact SonicWall Support, visit https://www.sonicwall.com/support/contact-support.

About This Document

NOTE: A NOTE icon indicates supporting information.

IMPORTANT: An IMPORTANT icon indicates supporting information.

TIP: A TIP icon indicates helpful information.

CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death.

SonicOSX Real Time Charts Administration Guide
Updated - April 2021
Software Version - 7
232-005652-00 Rev A

End User Product Agreement

To view the SonicWall End User Product Agreement, go to: https://www.sonicwall.com/legal/end-user-product-agreements/.

Open Source Code

SonicWall Inc. is able to provide a machine-readable copy of open source code with restrictive licenses such as GPL, LGPL, AGPL when applicable per license requirements. To obtain a complete machine-readable copy, send your written requests, along with certified check or money order in the amount of USD 25.00 payable to "SonicWall Inc.", to:

General Public License Source Code Request
Attn: Jennifer Anderson
1033 McCarthy Blvd
Milpitas, CA 95035