

How to Display QoS Queue Statistics on a Switch

Objective

Quality of Service (QoS) is a feature that is used to optimize network performance. It provides classifications of incoming traffic to traffic classes based to attributes that include device configuration, ingress interface, packet content, and combination of these attributes. QoS is achieved by managing the delay, delay variation or jitter, bandwidth, and packet loss. This feature is commonly used for time-sensitive data for Voice over Internet Protocol (VoIP), video, and mission critical applications.

Queue management is used in QoS internetwork architecture. Queueing is a technique used in network devices such as routers and switches to handle congestion. Packets are held in queues for processing. After processing, packets are sent to the destination. Queue statistics provide information about the number of packets forwarded and number of packets dropped depending upon the interface, queue and drop precedence.

This article provides instructions on how to display QoS queue statistics through the web-based utility and the Command Line Interface (CLI) of your switch.

Applicable Devices

- Sx350 Series
- SG350X Series
- Sx550X Series

Software Version

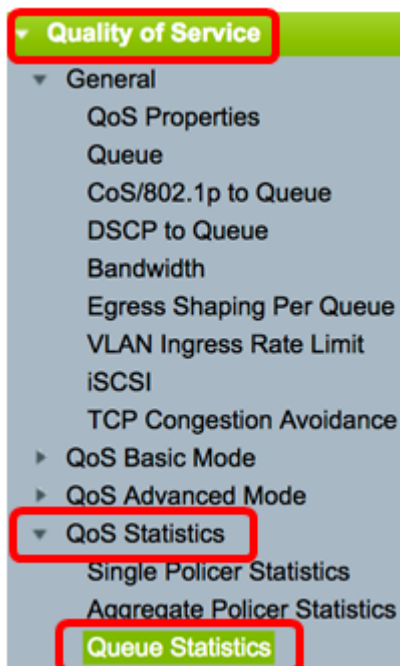
- 2.3.0.130

Display QoS Queue Statistics

Display QoS Queue Statistics on an Interface through the Web-based Utility

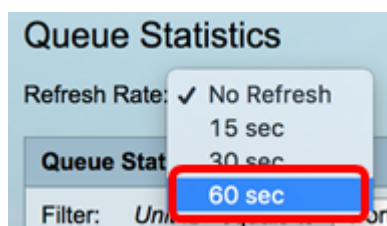
Step 1. Log in to the web-based utility of the switch then choose **Quality of Service > QoS Statistics > Queue Statistics**.

Note: The available menu options may vary depending on the device model. In this example, SG350X-48MP is used.



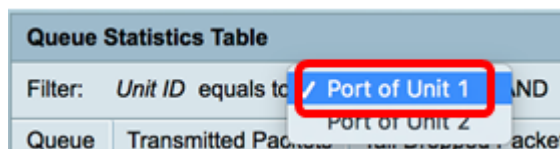
Step 2. Choose refresh rate from the Refresh Rate drop-down list. This is the time period that passes before the interface Ethernet statistics are refreshed. The options are:

- No Refresh — Statistics are not refreshed. This is the default option.
- 15 sec — Statistics are refreshed every 15 seconds.
- 30 sec — Statistics are refreshed every 30 seconds.
- 60 sec — Statistics are refreshed every 60 seconds.



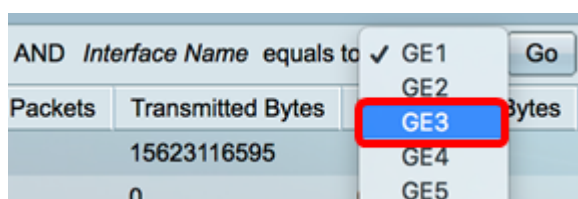
Note: In this example, 60 sec is chosen.

Step 3. (Optional) For stacked switches, choose the switch that you want to configure from the Unit ID drop-down list.



Note: In this example, Port of Unit 1 is chosen.

Step 4. Choose an interface from the Interface Name drop-down list.



Note: In this example, interface GE3 is chosen.

Step 5. Click the **Go** button to view the QoS queue statistics of the specific interface.

Queue Statistics

Refresh Rate: 60 sec

Queue Statistics Table

Filter: *Unit ID* equals to Port of Unit 1 AND *Interface Name* equals to GE3 **Go**

The Queues Statistics table displays the following fields for each queue:

- Queue — Packets forwarded or tail dropped from this queue.
- Transmitted Packets — Number of packets that were transmitted.
- Tail Dropped Packets — Percentage of packets that were tail dropped.
- Transmitted Bytes — Number of bytes that were transmitted.
- Tail Dropped Bytes — Percentage of bytes that were tail dropped.

Queue Statistics

Refresh Rate: 60 sec

Queue Statistics Table

Filter: *Unit ID* equals to Port of Unit 1 AND *Interface Name* equals to GE3 Go

Queue	Transmitted Packets	Tail Dropped Packets	Transmitted Bytes	Tail Dropped Bytes
1	42026759	4577011	11146343398	1201360177
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	11830822	0	835194640	0
7	46374	0	3970158	0
8	0	0	0	0

Clear Interface Counters Clear All Interface Counters Refresh

Step 6. (Optional) To clear the counters of the chosen interface, click the **Clear Interface Counters** button then click **OK** on the pop-up window.

Queue Statistics

Refresh Rate: 60 sec

Queue Statistics Table

Filter: *Unit ID* equals to Port of Unit 1 AND *Interface Name* equals to GE3 Go

Queue	Transmitted Packets	Tail Dropped Packets	Transmitted Bytes	Tail Dropped Bytes
1	42026759	4577011	11146343398	1201360177
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	11830822	0	835194640	0
7	46374	0	3970158	0
8	0	0	0	0

Clear Interface Counters

Clear All Interface Counters

Refresh



This operation will clear the queue statistics for this selected interface, would you like to proceed?

OK

Cancel

Step 7. (Optional) To clear the counters of all interfaces on the chosen switch, click the **Clear All Interface Counters** button then click **OK** on the pop-up window.

Queue Statistics

Refresh Rate: 60 sec

Queue Statistics Table

Filter: *Unit ID* equals to Port of Unit 1 AND *Interface Name* equals to GE3 Go

Queue	Transmitted Packets	Tail Dropped Packets	Transmitted Bytes	Tail Dropped Bytes
1	42026759	4577011	11146343398	1201360177
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	11830822	0	835194640	0
7	46374	0	3970158	0
8	0	0	0	0

Clear Interface Counters

Clear All Interface Counters

Refresh



This operation will clear the queue statistics for all interfaces, would you like to proceed?



Step 8. (Optional) To refresh the counters on the chosen interface, click the **Refresh** button. The table will immediately reflect the refreshed statistics.

Queue Statistics Table					
Filter:	Unit ID equals to	Port of Unit 1 ▾	AND Interface Name equals to	GE3 ▾	Go
Queue	Transmitted Packets	Tail Dropped Packets	Transmitted Bytes	Tail Dropped Bytes	
1	87	0	9077	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	12	0	2471	0	
7	14	0	1141	0	
8	0	0	0	0	

Buttons: Clear Interface Counters, Clear All Interface Counters, Refresh (highlighted with a red border)

You should now have successfully displayed the QoS queue statistics on a specific interface or interfaces through the web-based utility of your switch.

Display QoS Queue Statistics on an Interface through the CLI

Step 1. Log in to the switch console. The default username and password is cisco/cisco. If you have configured a new username or password, enter the credentials instead.

```
User Name:cisco
Password:*****
```

Note: The commands may vary depending on the exact model of your switch. In this example, the SG350X switch is accessed through Telnet.

Step 2. From the Privileged EXEC mode of the switch, enter the following:

```
SG350X#show queue statistics [interface-id]
```

- interface-id — Specifies an interface ID.
- The Queues Statistics table displays the following fields for each queue:
- Interface — The specified interface.
- Queue — Packets forwarded or tail dropped from this queue.
- Tx Packets — Number of packets that were transmitted.

- Tx Bytes — Number of bytes that were transmitted.
- Tail-Dropped Packets — Percentage of packets that were tail dropped.
- Tail-Dropped Bytes — Percentage of bytes that were tail dropped.

```
SG350X#show queue statistics ge1/0/3
```

Interface	Queue	Tx Packets	Tx Bytes	Tail-Dropped Packets	Tail-Dropped Bytes
gi1/0/3	1	2815	355977	0	0
gi1/0/3	2	0	0	0	0
gi1/0/3	3	0	0	0	0
gi1/0/3	4	0	0	0	0
gi1/0/3	5	0	0	0	0
gi1/0/3	6	492	97997	0	0
gi1/0/3	7	546	46613	0	0
gi1/0/3	8	0	0	0	0

```
SG350X#
```

Step 3. (Optional) To display the Differentiated Services Code Point (DSCP) to queue mapping, enter the following:

```
SG350X#show qos map dscp-queue
```

```
SG350X#show qos map dscp-queue
```

```
Dscp-queue map:
```

d1	d2	0	1	2	3	4	5	6	7	8	9
0	:	01	01	01	01	01	01	01	01	01	02
1	:	02	02	02	02	02	02	06	03	03	03
2	:	03	03	03	03	06	04	04	04	04	04
3	:	04	04	07	05	05	05	05	05	05	05
4	:	06	07	07	07	07	07	07	07	06	06
5	:	06	06	06	06	06	06	06	06	06	06
6	:	06	06	06	06						

```
SG350X#
```

Step 4. (Optional) To clear QoS statistics counters on your switch, enter the Global Configuration context by entering the following:

```
SG350X#clear qos statistics
```

```
SG350X#clear qos statistics
```

```
SG350X#
```

You should now have successfully displayed the QoS queue statistics on a specific interface or interfaces through the CLI of your switch.