



# Monitoring QoS Statistics

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## Information About QoS Statistics

Statistics are maintained for each policy, class action, and match criteria per interface. You can enable or disable the collection of statistics globally using the **[no] qos statistics** command. You can display statistics using the **show policy-map interface** command, and you can clear statistics based on an interface or policy map with the **clear qos statistics** command. Statistics are enabled by default and can be disabled globally.

## Prerequisites for Monitoring QoS Statistics

You are logged in to the CLI in EXEC mode.

# Enabling QoS Statistics

You can enable or disable QoS statistics for all interfaces on the device.



**Note** By default, QoS statistics are enabled.

## Procedure

	Command or Action	Purpose
<b>Step 1</b>	switch# <b>configure terminal</b>	Enters global configuration mode.
<b>Step 2</b>	switch(config)# <b>qos statistics</b>	Enables QoS statistics on all interfaces.
<b>Step 3</b>	switch(config)# <b>show policy-map interface</b>	(Optional) Displays the status of the global statistics and the configured policy maps on all interfaces.
<b>Step 4</b>	switch(config)# <b>copy running-config startup-config</b>	(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.

This example shows how to enable QoS statistics:

```
switch# configure terminal
switch(config)# qos statistics
switch(config)# show policy-map interface
Global statistics status :   enabled

Vethernet1

  Service-policy (qos) input:   policy1
  policy statistics status:   enabled

  Class-map (qos):   class1 (match-all)
    1 packets
    Match: access-group testacl1
    Match: packet length 3-6000
    set dscp af31

  Class-map (qos):   class-default (match-any)
    1 packets

  Service-policy (qos) output:  policy1
  policy statistics status:   enabled

  Class-map (qos):   class1 (match-all)
    9 packets
    Match: access-group testacl1
    Match: packet length 3-6000
    set dscp af31

  Class-map (qos):   class-default (match-any)
    18645 packets

Vethernet2
```

```

Service-policy (qos) output:  policy1
policy statistics status:  enabled

Class-map (qos):  class1 (match-all)
18636 packets
Match: access-group testacl1
Match: packet length 3-6000
set dscp af31

Class-map (qos):  class-default (match-any)
19191 packets

Vethernet3

Service-policy (qos) output:  policy1
policy statistics status:  enabled

Class-map (qos):  class1 (match-all)
9 packets
Match: access-group testacl1
Match: packet length 3-6000
set dscp af31

Class-map (qos):  class-default (match-any)
18644 packets

Vethernet4

Service-policy (qos) input:  lr2c
policy statistics status:  enabled

Class-map (qos):  mat-dscp0 (match-all)
568738560 packets
Match: dscp 0
police cir 90 mbps bc 200 ms
conformed 37578738384 bytes, 0 bps action: set-dscp-transmit 10
violated 0 bytes, 0 bps action: drop

Service-policy (qos) output:  policy1
policy statistics status:  enabled

Class-map (qos):  class1 (match-all)
9 packets
Match: access-group testacl1
Match: packet length 3-6000
set dscp af31

Class-map (qos):  class-default (match-any)
18642 packets
switch(config)# copy running-config startup-config

```

## Displaying QoS Statistics

### Before You Begin

You know the interface for which statistics are needed.



#### Note

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Statistics for individual interfaces are often the most useful.

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## Procedure

	Command or Action	Purpose
<b>Step 1</b>	<pre>switch# show policy-map [<i>policy-map-name</i>   <b>interface</b> [<b>brief</b>   <b>ethernet</b> <i>interface_number</i>   <b>output type qos</b>   <b>port-channel</b> <i>number</i>   <b>vethernet</b> <i>interface_number</i>   <b>input type qos</b>]   <b>type qos</b>]</pre>	<p>Displays the specified statistics.</p> <p>To achieve the best result when your system has a large number of policies, use this command with specific arguments, such as specifying a particular interface or port channel.</p> <ul style="list-style-type: none"> <li>• Use the <b>interface</b> keyword with the following keywords to display the service policy on an interface: <ul style="list-style-type: none"> <li>◦ <b>brief</b>—Displays a brief report of all policies attached to interfaces.</li> <li>◦ <b>ethernet</b>—Displays statistics for an Ethernet interface.</li> <li>◦ <b>input type qos</b>—Displays statistics for QoS input policies.</li> <li>◦ <b>output type qos</b>—Displays statistics for QoS output policies.</li> <li>◦ <b>port-channel</b>—Displays statistics for a port channel interface.</li> <li>◦ <b>vethernet</b>—Displays the statistics for a vEthernet interface.</li> </ul> </li> <li>• Use the <b>type qos</b> keyword to display the type of policy map.</li> </ul>

This example shows how to display QoS statistics:

```
switch (config)# show policy-map interface port-channel 1

Global statistics status :   enabled

port-channell

  Service-policy (qos) input:  2rate3clr
  policy statistics status:   enabled

  Class-map (qos):   class1 (match-all)
  14 packets
  Match: access-group testacl1
  Match: packet length 3-6000
  police cir 300 kbps bc 200 ms pir 750 kbps be 200 ms
  conformed 1260 bytes, 4384 bps action: set-cos-transmit 4
  exceeded 0 bytes, 0 bps action: set dscp dscp table cir-markdown-map
  violated 0 bytes, 0 bps action: set dscp dscp table pir-markdown-map

switch(config-if)# show policy-map interface vethernet 1

Global statistics status :   enabled

Vethernet1

  Service-policy (qos) input:  policy1
```

```

policy statistics status:   enabled

Class-map (qos):   class1 (match-all)
  1 packets
  Match: access-group testacl1
  Match: packet length 3-6000
  set dscp af31

Class-map (qos):   class-default (match-any)
  1 packets

Service-policy (qos) output:   policy1
policy statistics status:   enabled

Class-map (qos):   class1 (match-all)
  9 packets
  Match: access-group testacl1
  Match: packet length 3-6000
  set dscp af31

Class-map (qos):   class-default (match-any)
  19074 packets

```

## Clearing QoS Statistics

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	switch # <b>clear qos statistics</b> [interface { <b>ethernet interface_number</b>   <b>port-channel number</b>   <b>vethernet interface_number</b>   <b>output type qos</b>   <b>input type qos</b> }]	Clears the specified QoS statistics.

This example shows how to clear QoS statistics:

```

switch(config)# clear qos statistics interface port-channel 1
switch# show policy-map interface port-channel 1
Global statistics status : enabled
port-channell
Service-policy (qos) input: 2rate3clr
policy statistics status: enabled
Class-map (qos): class1 (match-all)
  0 packets
Match: access-group testacl1
Match: packet length 3-6000
police cir 300 kbps bc 200 ms pir 750 kbps be 200 ms
conformed 0 bytes, 0 bps action: set-cos-transmit 4
exceeded 0 bytes, 0 bps action: set dscp dscp table cir-markdown-map
violated 0 bytes, 0 bps action: set dscp dscp table pir-markdown-map
switch#

```

## Configuration Example for QoS Statistics

This example shows how to display statistics for policy maps that are configured on interfaces:

```

switch(config)# show policy-map interface

Global statistics status :   enabled

Vethernet3

```

```

Service-policy (qos) input:  new-policy
policy statistics status:  enabled

Class-map (qos):  class-default (match-any)
59610700 packets
set prec 5

Vethernet5

Service-policy (qos) output:  new-policer
policy statistics status:  enabled

Class-map (qos):  new-class (match-all)
344661013 packets
Match: precedence 5
police cir 900 mbps bc 200 ms
conformed 505953339796 bytes, 899924196 bps action: transmit
violated 12285218014 bytes, 22283000 bps action: drop

```

This example shows how to display the status of the global statistics and the configured policy maps on a specific interface:

```

switch(config)# show policy-map interface vethernet 3

Global statistics status :  enabled

Vethernet3

Service-policy (qos) input:  policy-protoacl
policy statistics status:  enabled

Class-map (qos):  class-protoacl (match-any)
132 packets
Match: access-group protoacl
132 packets
set qos-group 100

```

## Standards

No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.

## MIBs

MIBS	MIBs Link
CISCO-PROCESS-MIB	To locate and download MIBs, go to the following URL: <a href="http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml">http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml</a>

## RFCs

No RFCs are supported by this feature.

## Technical Assistance

Description	Link
Technical Assistance Center (TAC) home page, contains 30,000 pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	<a href="http://www.cisco.com/cisco/web/support/index.html">http://www.cisco.com/cisco/web/support/index.html</a>

## Feature History for QoS Statistics

This section provides the QoS statistics release history.

Feature Name	Release	Feature Information
QoS Statistics	4.0	This feature was introduced.

