Monitoring QoS Statistics

This chapter describes how to enable, display, and clear QoS statistics.

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

Monitoring QoS statistics has the following prerequisites:

- You are logged in to the CLI in EXEC mode.

Enabling Statistics

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

BEFORE YOU BEGIN

- By default, QoS statistics are enabled.
Displaying Statistics

Use this procedure to display QoS statistics for an interface.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- You know the interface for which statistics are needed.

Note: Statistics for individual interfaces are often the most useful.

SUMMARY STEPS

1. **show policy-map** {policy-map-name | interface [brief | ethernet interface_number | output type qos | port-channel number | vethernet interface_number | input type qos] | type qos}
## DETAILED STEPS

### Command

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>show policy-map {interface {brief</td>
<td>ethernet slot_number</td>
<td>output type qos</td>
</tr>
<tr>
<td></td>
<td></td>
<td>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.</td>
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<tr>
<td></td>
<td></td>
<td>• <strong>interface</strong>: Show service policy on interface</td>
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<td></td>
<td></td>
<td>• <strong>brief</strong>: Use this option to get a brief report of all policies attached to interfaces.</td>
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<td></td>
<td></td>
<td>• <strong>ethernet</strong>: Use this option to get statistics for an Ethernet IEEE 802.3z interface.</td>
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<td></td>
<td>• <strong>input type qos</strong>: Use this option to get statistics for QoS input policies.</td>
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<td></td>
<td>• <strong>output type qos</strong>: Use this option to get statistics for QoS output policies.</td>
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<td>• <strong>port-channel</strong>: Use this option to get statistics for a Port Channel interface.</td>
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<td></td>
<td>• <strong>vethernet</strong>: Use this option to get statistics for a Virtual Ethernet interface.</td>
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<td></td>
<td>• <strong>type qos</strong>: Type of the policy-map</td>
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<td></td>
<td>Example:</td>
<td>switch# show policy-map interface ethernet 2/1</td>
</tr>
</tbody>
</table>

### SUMMARY STEPS

1. clear qos statistics interface {ethernet interface_number | port-channel number | vethernet interface_number | output type qos | input type qos}

### DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>clear qos statistics interface {brief</td>
<td>ethernet interface_number</td>
</tr>
<tr>
<td>Example: switch# clear qos statistics type qos</td>
<td></td>
</tr>
</tbody>
</table>
Example Policy Map Statistics

The following examples show statistics for a policy map.

n1000v(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 505953319796 bytes, 899924196 bps action: transmit
violated 1228531014 bytes, 22283000 bps action: drop

n1000v(config)# show ip access-lists protoacl

IP access list protoacl
statistics per-entry
10 permit icmp 7.120.1.10/32 7.120.1.20/32
20 permit tcp 7.120.1.10/32 7.120.1.20/32 dscp af11
30 permit udp 7.120.1.10/32 7.120.1.20/32 precedence critical
50 permit ip 7.120.1.10/32 7.120.1.10/32
60 permit ip 7.120.1.10/32 7.120.1.10/32 dscp af11
70 permit ip 7.120.1.10/32 7.120.1.10/32 precedence critical

n1000v(config)# show class-map class,protoacl

Type qos class-maps
====================
class-map type qos match-any class,protoacl
match access-group name protoacl

n1000v(config)# show policy-map policy,protoacl

Type qos policy-maps
====================
policy-map type qos policy,proto acl
class class,protoacl
set qos-group 100

n1000v(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

Example Policer Statistics

The following examples show policer statistics.

n1000v# show policy-map interface
Global statistics status : enabled
port-channel1

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

Class-map (qos):   newsched (match-all)
   468595 packets
   Match: dscp 10
   police cir 900 mbps bc 200 ms
   conformed 3508440746 bytes, 89680681 bps action: transmit
   violated 56543498 bytes, 14453859 bps action: drop

n1000v# show policy-map interface
Global statistics status : enabled
Vethernet3

Service-policy (qos) input:     2r3c
policy statistics status:     enabled

Class-map (qos):   class-default (match-any)
   123934 packets
   police cir 200 mbps bc 200 ms pir 250 mbps be 200 ms
   conformed 514043776 bytes, 197547687 bps action: transmit
   exceeded 130494776 bytes, 50149311 bps action: set dscp dscp table
   cir-markdown-map
   violated 67752080 bytes, 26037211 bps action: drop

Additional References

For additional information related to implementing system-level HA features, see the following sections:

- Related Documents, page 5-6
- Standards, page 5-6
### Additional References

- MIBs, page 5-6
- RFCs, page 5-6
- Technical Assistance, page 5-7

### Related Documents

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<tr>
<th>Related Topic</th>
<th>Document Title</th>
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<tr>
<td>QoS Classification</td>
<td>“Configuring QoS Classification” section on page 2-1</td>
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<tr>
<td>QoS Policies and Marking</td>
<td>“Configuring QoS Marking Policies” section on page 3-1</td>
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<tr>
<td>QoS Overview</td>
<td>“Overview” section on page 1-1</td>
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<tr>
<td>QoS Policing</td>
<td>“Configuring QoS Policing” section on page 4-1</td>
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<tr>
<td>Configuring ACLs</td>
<td>Cisco Nexus 1000V Security Configuration Guide, Release 4.0(4)SV1(1)</td>
</tr>
<tr>
<td>Cisco Nexus 1000V commands</td>
<td>Cisco Nexus 1000V Command Reference, Release 4.0(4)SV1(1)</td>
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### Standards

<table>
<thead>
<tr>
<th>Standards</th>
<th>Title</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.</td>
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</tbody>
</table>

### MIBs

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<thead>
<tr>
<th>MIBs</th>
<th>MIBs Link</th>
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<tbody>
<tr>
<td>CISCO-PROCESS-MIB</td>
<td>To locate and download MIBs, go to the following URL:</td>
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### RFCs

<table>
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<tbody>
<tr>
<td></td>
<td>No RFCs are supported by this feature</td>
</tr>
</tbody>
</table>
Technical Assistance

<table>
<thead>
<tr>
<th>Description</th>
<th>Link</th>
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<tbody>
<tr>
<td>Technical Assistance Center (TAC) home page, containing 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.</td>
<td><a href="http://www.cisco.com/public/support/tac/home.shtml">http://www.cisco.com/public/support/tac/home.shtml</a></td>
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Feature History for QoS Statistics

This section provides the QoS statistics release history.

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>Releases</th>
<th>Feature Information</th>
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<tbody>
<tr>
<td>QoS Statistics</td>
<td>4.0</td>
<td>This feature was introduced.</td>
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