QoS: Packet Marking Statistics

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The QoS: Packet Marking Statistics feature allows you to display the number of packets that have:

- Modified headers
- Been classified into a category for local router processing

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the “Feature Information for QoS: Packet Marking Statistics” section on page 8.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on Cisco.com is not required.

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Prerequisites for QoS: Packet Marking Statistics

You cannot enable or disable the QoS: Packet Marking Statistics feature if a policy map is associated with any interface on the system.

Restrictions for QoS: Packet Marking Statistics

Enabling the Qos: Packet Marking Statistics feature may increase CPU utilization on a scaled configuration. Before enabling the Qos: Packet Marking Statistics feature, weigh the benefits of the statistics information against the increased CPU utilization for your system.

Information About QoS: Packet Marking Statistics

QoS: Packet Marking Statistics Feature Overview

The QoS: Packet Marking Statistics feature allows you to display the number of packets that have:

- Modified headers
- Been classified into a category for local router processing

Use the QoS: Packet Marking Statistics feature to display traffic types. Using this information you can do the following:

- Compare the amount of voice traffic to data traffic on a segment of your network
- Adjust bandwidth availability
- Accurately determine billing
- Troubleshoot service problems

The system collects packet marking statistics on a 10-second cycle. If there are many interfaces or sessions then the system collects statistics for about 8000 of them during each cycle. In a scaled configuration several 10-second cycles may be required to gather all statistics.

How to Use QoS: Packet Marking Statistics

Configuring QoS: Packet Marking Statistics

Prerequisites

Before enabling the QoS: Packet Marking Statistics feature, ensure no policy maps are associated with interfaces on the system. If there are, the system returns the following message:

Either a) A system RELOAD or  
b) Remove all service-policies, re-apply the change to the statistics, re-apply all service-policies is required before this command will be activated.
Restrictions

Enabling the QoS: Packet Marking Statistics feature may increase CPU utilization on a scaled configuration. Before enabling the QoS: Packet Marking Statistics feature, weigh the benefits of the statistics information against the increased CPU utilization for your system.

SUMMARY STEPS

1. enable
2. configure terminal
3. platform qos marker-statistics
4. end
5. show policy-map interface-name [vc [vpi] vci] [dlci dlci] [input | output]
   or
   show policy-map session
6. configure terminal
7. no platform qos marker-statistics
8. end

DETAILED STEPS

<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
</table>
| 1.   | enable            | Enables privileged EXEC mode.  
      |                   | • Enter your password if prompted. |
| 2.   | configure terminal| Enters global configuration mode. |
| 3.   | platform qos marker-statistics | Enables the QoS: Packet Marking Statistics feature. |
| 4.   | end               | Exits configuration mode. |

Example:
Router> enable

Example:
Router# configure terminal

Example:
Router(config)# platform qos marker-statistics

Example:
Router(config)# platform qos marker-statistics
### Command or Action

<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 5</strong></td>
<td><code>show policy-map interface interface-name</code>&lt;br&gt; `[vc [vpi/] vci] [dlci dlci] [input</td>
<td>output]`</td>
</tr>
<tr>
<td><strong>Step 6</strong></td>
<td><code>configure terminal</code></td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td><strong>Step 7</strong></td>
<td><code>no platform qos marker-statistics</code></td>
<td>Disables the QoS: Packet Marking Statistics feature.</td>
</tr>
<tr>
<td><strong>Step 8</strong></td>
<td><code>end</code></td>
<td>Exits configuration mode.</td>
</tr>
</tbody>
</table>

### Examples

Use the `show policy-map interface` command to display the packet statistics of all classes that are configured for all service policies either on the specified interface or subinterface or on a specific PVC on the interface.

```
Router# show policy-map interface
```

Example:

```
ATM1/0/0.1: VC 1/110 -
Service-policy output: m_asr1000_atm_out
Class-map: m_asr1000_atm_out (match-all)
  6644555 packets, 784057490 bytes
  5 minute offered rate 9024000 bps, drop rate 0000 bps
  Match: precedence 4
  Match: qos-group 4
  QoS Set
    atm-clp
  Packets marked 6649123 <-------- The interface transmitted 6644555 packets matching class-map m_asr1000_atm_out. Of these packets, 6649123 had the ATM CLP bit marked. These two numbers are often the same, but a time difference in when the statistics were gathered may cause the numbers to be different.
    precedence 3
  Packets marked 6649123 <-------- The interface transmitted 6644555 packets matching class-map m_asr1000_atm_out. Of these packets, 6649123 had the IP Precedence field set to 3. These two numbers are often the same, but a time difference in when the statistics were gathered may cause the numbers to be different.
Class-map: class-default (match-any)
```
QoS: Packet Marking Statistics

How to Use QoS: Packet Marking Statistics

POS2/0/1.1
Service-policy input: m_asr1000_policy
Class-map: m_asr1000_class (match-all)
   6644560 packets, 757479840 bytes
   5 minute offered rate 8720000 bps, drop rate 0000 bps
   Match: precedence 5
QoS Set
   precedence 4
   Packets marked 6644560 <-------- The interface received 6644560 packets matching
class-map m_asr1000_class. Of these packets, 6644560 had the IP Precedence set to 4.
   mpls experimental imposition 4
   Packets marked 6644560 <-------- The interface received 6644560 packets matching
class-map m_asr1000_class. Of these packets, 6644560 had the MPLS Experimental Imposition
set to 4.
   qos-group 4
   Packets marked 6644560 <-------- The interface received 6644560 packets matching
class-map m_asr1000_class. Of these packets, 6644560 had the QoS-group set to 4.
Class-map: class-default (match-any)
   18 packets, 1612 bytes
   5 minute offered rate 0000 bps, drop rate 0000 bps
   Match: any

Virtual-Template2
Service-policy input: m_pppoe_policy
   Service policy content is displayed for cloned interfaces only such as vaccess and
sessions
Router# show policy-map interface Virtual-Access 2.1

Virtual-Access2.1
SSS session identifier 10 -
Service-policy input: m_pppoe_policy
Class-map: m_pppoe_class (match-all)
   4563 packets, 538434 bytes
   30 second offered rate 0000 bps, drop rate 0000 bps
   Match: precedence 5
QoS Set
   precedence 6
   Packets marked 4563 <-------- The virtual interface received 4563 packets
matching class-map m_pppoe_class. Of these packets, 4563 had the IP Precedence set to 6.
   Class-map: class-default (match-any)
   4 packets, 152 bytes
   30 second offered rate 0000 bps, drop rate 0000 bps
   Match: any

Use the show policy-map session command to display the QoS policy map in effect for a PPPoE
session.

Router# show policy-map session uid 10

SSS session identifier 10 -
Service-policy input: m_pppoe_policy
Class-map: m_pppoe_class (match-all)
   4563 packets, 538434 bytes
   30 second offered rate 0000 bps, drop rate 0000 bps
   Match: precedence 5
QoS Set
   precedence 6
   Packets marked 4563 <-------- The virtual interface received 4563 packets
matching class-map m_pppoe_class. Of these packets, 4563 had the IP Precedence set to 6.
   Class-map: class-default (match-any)
   53 packets, 2014 bytes
   30 second offered rate 0000 bps, drop rate 0000 bps
Troubleshooting Tips

To confirm that the QoS: Packet Marking Statistics feature is enabled, use the `show platform hardware qfp active feature qos config global` command.

Configuration Examples for QoS: Packet Marking Statistics

Example: Configuring a Policy on an Ingress Interface

This example shows how to do the following:
- Enable the QoS: Packet Marking Statistics feature
- Configure an input service policy on an ingress interface
- Classify traffic to a configured class
- Configure marking in the class to set the IP precedence to 1
- Display the `show policy-map interface` command output

```
Router# platform qos marker-statistics

class-map test_class
    match access-group 101
policy-map test_policy
    class test_class
        set ip precedence 1
Interface POS2/0/1
    service-policy input test_policy
Router# show policy-map interface
POS2/0/1
    Service-policy input: test_policy
        Class-map: test_class (match-all)
            6644560 packets, 757479840 bytes
            5 minute offered rate 8720000 bps, drop rate 0000 bps
            Match: precedence 5
            QoS Set
                precedence 1
            Packets marked 6644560
        Class-map: class-default (match-any)
            18 packets, 1612 bytes
            5 minute offered rate 0000 bps, drop rate 0000 bps
            Match: any
```
Additional References

Related Documents

<table>
<thead>
<tr>
<th>Related Topic</th>
<th>Document Title</th>
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<tbody>
<tr>
<td>Cisco IOS commands</td>
<td>Cisco IOS Master Commands List, All Releases</td>
</tr>
<tr>
<td>Quality of service commands</td>
<td>Cisco IOS Quality of Service Command Reference</td>
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Standards

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<tr>
<td>standards has not been modified.</td>
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MIBs

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<tr>
<th>MIB</th>
<th>MIBs Link</th>
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<tbody>
<tr>
<td>CISCO-CLASS-BASED-QOS-MIB</td>
<td>To locate and download MIBs for selected platforms, Cisco software</td>
</tr>
<tr>
<td></td>
<td>releases, and feature sets, use Cisco MIB Locator found at the</td>
</tr>
<tr>
<td></td>
<td>following URL:</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a></td>
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RFCs

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<th>Title</th>
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<tr>
<td>No new or modified RFCs are supported,</td>
<td>—</td>
</tr>
<tr>
<td>and support for existing RFCs has not</td>
<td>been modified.</td>
</tr>
</tbody>
</table>

Technical Assistance

<table>
<thead>
<tr>
<th>Description</th>
<th>Link</th>
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<tbody>
<tr>
<td>The Cisco Support and Documentation website provides online resources to</td>
<td><a href="http://www.cisco.com/cisco/web/support/index.html">http://www.cisco.com/cisco/web/support/index.html</a></td>
</tr>
<tr>
<td>download documentation, software, and tools. Use these resources to</td>
<td></td>
</tr>
<tr>
<td>install and configure the software and to troubleshoot and resolve</td>
<td></td>
</tr>
<tr>
<td>technical issues with Cisco products and technologies. Access to most</td>
<td></td>
</tr>
<tr>
<td>tools on the Cisco Support and Documentation website requires a Cisco.com</td>
<td></td>
</tr>
<tr>
<td>user ID and password.</td>
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</tr>
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</table>
Feature Information for QoS: Packet Marking Statistics

Table 1 lists the features in this module and provides links to specific configuration information.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on Cisco.com is not required.

Note Table 1 lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Table 1 Feature Information for QoS: Packet Marking Statistics

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>Releases</th>
<th>Feature Information</th>
</tr>
</thead>
</table>
| QoS: Packet Marking Statistics | Cisco IOS XE Release 3.3S | The QoS: Packet Marking Statistics feature allows you to display the number of packets that have:  
- Modified headers  
- Been classified into a category for local router processing  
The following sections provide information about this feature:  
- Information About QoS: Packet Marking Statistics, page 2  
- How to Use QoS: Packet Marking Statistics, page 2  
The following commands were introduced or modified: **platform qos marker-statistics**, **no platform qos marker-statistics**, and **show platform hardware qfp active feature qos config global**.

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