Flexible NetFlow: Integration with MQC

This module describes the Flexible NetFlow: Integration with MQC feature. Flexible NetFlow supports the creation of flow caches with specific flow information tailored to the various services used in the network. A flow group allows customers to target and see only specific types of traffic and therefore increases the scalability of NetFlow while giving the customer the ability to target and isolate specific types of network behavior or IP applications. Flow groups use a Modular Quality of Service CLI (MQC) filtering and classification applied to a NetFlow cache.

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Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and 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 table.

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

Prerequisites for Flexible NetFlow: Integration with MQC

- You are familiar with the information in the *Flexible NetFlow Configuration Guide*.
- You are familiar with the MQC information in the "Applying QoS Features Using the MQC" module.
- The networking device must be running a Cisco IOS release that supports Flexible NetFlow.

IPv4 Traffic

- The networking device must be configured for IPv4 routing.

- One of the following must be enabled on your router and on any interfaces on which you want to enable Flexible NetFlow: Cisco Express Forwarding or distributed Cisco Express Forwarding.

IPv6 Traffic

- The networking device must be configured for IPv6 routing.
- One of the following must be enabled on your router and on any interfaces on which you want to enable Flexible NetFlow: Cisco Express Forwarding IPv6 or distributed Cisco Express Forwarding IPv6.

Information About Flexible NetFlow Integration with MQC

Flexible NetFlow: Integration with MQC Overview

Flexible NetFlow supports the creation of flow caches with specific flow information tailored to the various services used in the network. A flow group allows customers to target and see only specific types of traffic and therefore increases the scalability of NetFlow while giving the customer the ability to target and isolate specific types of network behavior or IP applications. Flow groups use MQC filtering and classification applied to a NetFlow cache.The Flexible NetFlow: Integration with MQC feature integrates FNF with MQC traffic selection and classification technology to support per-flow accounting for a subset of traffic received or sent on an interface or subinterface.

How to Configure Flexible NetFlow Integration with MQC

Configuring Flexible NetFlow: Integration with MQC

To configure the Flexible NetFlow: Integration with MQC feature, perform the following required task.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **flow record** *record-name*
4. **match ipv4 source address**
5. **match ipv4 destination address**
6. **match application name**
7. **exit**
8. **flow monitor** *monitor-name*
9. **description** *description*
10. **exit**
11. **sampler** *sampler-name*
12. **exit**
13. **class-map** *class-map-name*
14. **exit**

15. **policy-map** *policy-map-name*
16. **class** *class-map-name*
17. **flow monitor** *monitor-name* **sampler** *sampler-name*
18. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**flow record** *record-name* **Example:** `Device(config)# flow record FLOW-MONITOR-1`	Creates a flow record and enters Flexible NetFlow flow record configuration mode. • This command also allows you to modify an existing flow record.
Step 4	**match ipv4 source address** **Example:** `Router(config-flow-record)# match ipv4 source address`	Identifies the IPv4 source address as a match criterion.
Step 5	**match ipv4 destination address** **Example:** `Router(config-flow-record)# match ipv4 destination address`	Identifies the IPv4 destination address as a match criterion.
Step 6	**match application name** **Example:** `Router(config-flow-record)# match application name`	Identifies the application name as a match criterion.
Step 7	**exit** **Example:** `Router(config-flow-record)# exit`	Exits Flexible NetFlow flow record configuration mode and returns to global configuration mode.
Step 8	**flow monitor** *monitor-name* **Example:**	Creates a flow monitor and enters Flexible NetFlow flow monitor configuration mode.

	Command or Action	Purpose
	`Device(config)# flow monitor FLOW-MONITOR-1`	• This command also allows you to modify an existing flow monitor.
Step 9	**description** *description* **Example:** `Device(config-flow-monitor)# description Used for basic traffic analysis`	(Optional) Creates a description for the flow monitor.
Step 10	**exit** **Example:** `Router(config-flow-monitor)# exit`	Exits Flexible NetFlow flow monitor configuration mode and returns to global configuration mode.
Step 11	**sampler** *sampler-name* **Example:** `Device(config)# sampler sm_1`	Creates a flow sampler and enters Flexible NetFlow sampler configuration mode. • This command also allows you to modify an existing flow sampler.
Step 12	**exit** **Example:** `Router(config-sampler)# exit`	Exits Flexible NetFlow sampler configuration mode and returns to global configuration mode.
Step 13	**class-map** *class-map-name* **Example:** `Router(config)# class-map cmap`	Creates a class to be used with a class map and enters QoS class-map configuration mode.
Step 14	**exit** **Example:** `Router(config-cmap)# exit`	Exits QoS class-map configuration mode and returns to global configuration mode.
Step 15	**policy-map** *policy-map-name* **Example:** `Router(config)# policy-map pmap`	Specifies the name of the policy map to be created and enters QoS policy-map configuration mode.
Step 16	**class** *class-map-name* **Example:** `Router(config-pmap)# class cmap`	Specifies the name of the class of the policy to be created and enters QoS policy-map class configuration mode.
Step 17	**flow monitor** *monitor-name* **sampler** *sampler-name* **Example:**	Configures the flow monitor and sampler as a MQC policy map class action.

	Command or Action	Purpose
	`Device(config-pmap-c)# flow monitor FLOW-MONITOR-1 sampler sm_1`	
Step 18	**end** **Example:** `Device(config-pmap-c)# end`	Exits QoS policy-map class configuration mode and returns to privileged EXEC mode.

Configuration Examples for Flexible NetFlow Integration with MQC

Example: Configuring Flexible NetFlow: Integration with MQC

The following example displays a sample configuration for the functionality provided by the Flexible NetFlow: Integration with MQC feature:

```
enable
configure terminal
flow record rm_1
 match ipv4 source address
 match ipv4 destination address
 match application name
flow monitor mm_1
sampler sm_1
class-map cmap
policy-map pmap
 class cmap
  flow monitor mm_1 sampler sm_1
```

Additional References

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Command List, All Releases
Flexible NetFlow conceptual information and configuration tasks	*Flexible NetFlow Configuration Guide*
Flexible NetFlow commands	*Cisco IOS Flexible NetFlow Command Reference*

Standards/RFCs

Standard	Title
No new or modified standards/RFCs are supported by this feature.	—

MIBs

MIB	MIBs Link
None	To locate and download MIBs for selected platforms, Cisco software releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Flexible NetFlow: Integration with MQC

The following table provides release information about the feature or features described in this module. This table 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.

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Table 1: Feature Information for Flexible NetFlow: Integration with MQC

Feature Name	Releases	Feature Information
Flexible NetFlow: Integration with MQC	15.2(4)M 15.3(1)T	Flexible NetFlow supports the creation of flow caches with specific flow information tailored to the various services used in the network. A flow group allows customers to target and see only specific types of traffic and therefore increases the scalability of NetFlow while giving the customer the ability to target and isolate specific types of network behavior or IP applications. Flow groups use MQC filtering and classification applied to a NetFlow cache. The following commands were introduced or modified: **flow monitor**.