QoS Match VLAN

The QoS: Match VLAN feature allows you to classify network traffic on the basis of the Layer 2 virtual local-area network (VLAN) identification number.

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 at the end of this module.

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.

Information About Match VLAN

QoS Match VLAN

The QoS: Match VLAN feature allows you to classify network traffic on the basis of the Layer 2 virtual local-area network (VLAN) identification number. To classify network traffic based on the VLAN identification number you create a class-map and specify the match criteria using the **match vlan** command. You then attach the class to a policy-map and use the policy map in a service policy that is attached to an interface.

How to Configure Match VLAN

Classifying Network Traffic per VLAN

To classify network traffic on a per VLAN basis, perform the following task.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **class-map** {**match-any** | **match-all**} *class-map-name*
4. **match vlan** *vlan-id-number*
5. **exit**
6. **policy-map** *policy-map-name*
7. **class** *class-map-name*
8. **bandwidth percent** *percent*
9. **exit**
10. **exit**
11. **policy-map** *policy-map-name*
12. **class** *class-map-name*
13. **shape** {**average** | **peak**} *cir*
14. **service-policy** {**input** | **output**} *policy-map-name*
15. **exit**
16. **exit**
17. **interface** *type number* [**name-tag**]
18. **service-policy** {**input** | **output**} *policy-map-name*
19. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.

	Command or Action	**Purpose**
Step 3	**class-map** {**match-any**	**match-all**} *class-map-name* **Example:** Router(config)# class-map match-any Blue_VRF	Creates a class map and enters class map configuration mode.
Step 4	**match vlan** *vlan-id-number* **Example:** Router(config-cmap)# match vlan 101	Matches traffic on the basis of the range of VLAN identification numbers specified.
Step 5	**exit** **Example:** Router(config-cmap)# exit	Returns to global configuration mode.
Step 6	**policy-map** *policy-map-name* **Example:** Router(config)# policy-map Shared_QoS	Creates a policy map that can be attached to an interface and enters policy-map configuration mode.
Step 7	**class** *class-map-name* **Example:** Router(config-pmap)# class Blue_VRF	Specify the name of the class whose policy you want to create and enters policy-map class configuration mode.
Step 8	**bandwidth percent** *percent* **Example:** Router(config-pmap-c)# bandwidth percent 30	Specifies the bandwidth allocated for a class belonging to a policy map.
Step 9	**exit** **Example:** Router(config-pmap-c)# exit	Returns to policy-map configuration mode.
Step 10	**exit** **Example:** Router(config-pmap)# exit	Returns to global configuration mode.

	Command or Action	Purpose
Step 11	**policy-map** *policy-map-name* **Example:** `Router(config)# policy-map COS-OUT-SHAPED`	Creates a policy map that can be attached to an interface and enters policy-map configuration mode.
Step 12	**class** *class-map-name* **Example:** `Router(config-pmap)# class FROM_WAN`	Specify the name of the class whose policy you want to create and enters policy-map class configuration mode.

Step 13	**shape** {**average** | **peak**} *cir*
	
	Example:
	
	`Router(config-pmap-c)# shape average`
	`9000000000`
		Specifies the average rate traffic shaping.
		
		• The Committed information rate (CIR), is specified in bits per second (bps).

Step 14	**service-policy** {**input** | **output**} *policy-map-name*
	
	Example:
	
	`Router(config-pmap-c)# service-policy`
	`Shared_QoS`
		Specifies the name of the predefined policy map to be used as a QoS policy.

Step 15	**exit** **Example:** `Router(config-pmap-c)# exit`	Returns to policy-map configuration mode.
Step 16	**exit** **Example:** `Router(config-pmap)# exit`	Returns to global configuration mode.
Step 17	**interface** *type* *number* [**name-tag**] **Example:** `Router(config)# interface FastEthernet 0/0.1`	Configures an interface type and enters interface configuration mode. • Enter the interface type and number.

Step 18	**service-policy** {**input** | **output**} *policy-map-name*
	
	Example:
	
	`Router(config-if)# service-policy output`
	`COS-OUT-SHAPED`
		Attaches a policy map to an input interface, a virtual circuit (VC), an output interface, or a VC that will be used as the service policy for the interface.

	Command or Action	Purpose
Step 19	**end** **Example:** `Router(config-if)# end`	(Optional) Exits interface configuration mode and returns to privileged EXEC mode.

Configuration Examples for Match VLAN

Example: Classifying Network Traffic per VLAN

The following example shows how to classify network traffic on a VLAN basis. The VLAN classified traffic is applied to the FastEthernet 0/0.1 subinterface.

```
interface FastEthernet0/0.1
service-policy output COS-OUT-SHAPED
policy-map COS-OUT-SHAPED
     class ADMIN
     class FROM_WAN
            shape average 900000000
            service-policy Shared_QoS
policy-map Shared_QoS
     ! description -- Bandwidth sharing between VRF --
     class Blue_VRF
            bandwidth percent 3
class-map match-any Blue_VRF
     ! description -- traffic belonging to the VRF Blue --
     match vlan  101
```

Additional References for QoS for Match VLAN

Related Documents

Related Topic	Document Title
Cisco commands	Cisco IOS Master Command List, All Releases
QoS commands: complete command syntax, command modes, command history, defaults, usage guidelines, and examples	*Cisco IOS Quality of Service Solutions Command Reference*
Classifying network traffic	"Classifying Network Traffic" module
MQC	"Applying QoS Features Using the MQC" module
Marking network traffic	"Marking Network Traffic" module

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 QoS for Match VLAN

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 QoS for Match VLAN

Feature Name	Releases	Feature Information
QoS: Match VLAN	12.2(31)SB2 Cisco IOS XE Release 2.1 15.0(1)S	The QoS: Match VLAN feature allows you to classify network traffic on the basis of the Layer 2 virtual local-area network (VLAN) identification number. The following commands were introduced or modified by this feature: **match vlan** (QoS), **show policy-map interface** This feature was introduced on Cisco ASR 1000 Series Routers.