MQC Policy Map Support on Configured VC Range ATM

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The Modular Quality of Service Command Line Interface (MQC) Policy Map support on Configured VC Range ATM feature extends the functionality for policy maps on a single ATM VC to the ATM VC range.

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 MQC Policy Map Support on Configured VC Range ATM" section on page 8.

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS 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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Information About MQC Policy Map Support on Configured VC Range ATM

The MQC Policy Map Support on Configured VC Range feature simplifies the configuration of ATM VC ranges by allowing you to attach policy maps on a range of ATM VCs or on a specific VC within a range of VCs.

How to Configure MQC Policy Map Support on Configured VC Range ATM

To configure MQC policy maps on ATM VC ranges, perform the following configuration tasks:

- Attaching QoS Policies to an ATM PVC Range, page 2
- Attaching QoS Policies to an Individual PVC Within an ATM PVC Range, page 4

Attaching QoS Policies to an ATM PVC Range

Use the following configuration steps to attach a QoS policy to a range of ATM PVCs.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface atm** *slot/subslot/port*[*.subinterface*] [**multipoint** | **point-to-point**]
4. **range** [*range-name*] **pvc** *start-vpi/start-vci end-vpi/end-vci*
5. **service-policy** [**input** | **output**] *policy-map-name*
6. **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.
Step 3	**interface atm** `slot/subslot/port[.subinterface]` [**multipoint**	**point-to-point**] **Example:** `Router(config)# interface atm 1/0.1`	Specifies the ATM interface and enters interface configuration mode.

	Command or Action	Purpose
Step 4	**range** [*range-name*] **pvc** *start-vpi*/*start-vci* *end-vpi*/*end-vci* **Example:** `Router(config-if)# range pvc 101/304 200/400`	Defines a range of ATM permanent virtual circuits (PVCs) and enters ATM range configuration mode. • (Optional) *range-name* is the name of the range. The *range-name* can be a maximum of 15 characters. • *start-vpi*/ specifies the beginning value for a range of virtual path identifiers (VPIs). The slash is required. If you do not provide a VPI value or the slash, the default value of 0 is used. Valid values for VPI are from 0 to 255. • *start-vci* specifies the beginning value for a range of virtual channel identifiers (VCIs). Valid values are from 32 to 65535. • *end-vpi*/ specifies the end value for a range of virtual path identifiers (VPIs). The slash is required. If you do not provide a VPI value or the slash, the *start-vpi* value is used by default. Valid values for VPI are from 0 to 255. • *end-vci* specifies the end value for a range of virtual channel identifiers (VCIs). Valid values are from 32 to 65535.
Step 5	**service-policy** [**input** | **output**] *policy-map-name* **Example:** `Router(config-if-atm-range)# service-policy output Downstream_Traffic`	Attaches the service policy you specify to the specified ATM PVC range and enters ATM PVC range configuration mode. • **input** indicates to apply the service policy to the inbound traffic on the interface. • **output** indicates to apply the service policy to the outbound traffic on the interface. **Note** For QoS policies containing the **bandwidth**, **priority**, **random-detect**, **queue-limit**, and **shape** commands, you must specify the **output** keyword. The router ignores these commands when you use them with the **input** keyword. • *policy-map-name* is the name of the policy map you want to attach to the subinterface. **Note** The router applies the service policy to only the PVCs within the PVC range.
Step 6	**end** **Example:** `Router(config-if-atm-range)# end`	Exits ATM PVC range configuration mode and returns to privileged EXEC mode.

Attaching QoS Policies to an Individual PVC Within an ATM PVC Range

Use the following configuration task to attach a QoS policy to an individual PVC within a range of ATM PVCs.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface atm** *slot/subslot/port*[*.subinterface*] [**multipoint | point-to-point**]
4. **range** [*range-name*] **pvc** *start-vpi/start-vci end-vpi/end-vci*
5. **pvc-in-range** [*pvc-name*] *vpi/vci*
6. **service-policy** [**input | output**] *policy-map-name*
7. **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.
Step 3	**interface atm** slot/subslot/port[.subinterface] [**multipoint** | **point-to-point**] **Example:** `Router(config)# interface atm 1/0`	Specifies the ATM interface and enters interface configuration mode.

	Command or Action	Purpose
Step 4	**range** [*range-name*] **pvc** *start-vpi*/*start-vci* *end-vpi*/*end-vci* **Example:** `Router(config-if)# range pvc 101/304 200/400`	Defines a range of ATM permanent virtual circuits (PVCs) and enters ATM range configuration mode. • (Optional) *range-name* is the name of the range. The *range-name* can be a maximum of 15 characters. • *start-vpi*/ specifies the beginning value for a range of virtual path identifiers (VPIs). The slash is required. If you do not provide a VPI value or the slash, the default value of 0 is used. Valid values for VPI are from 0 to 255. • *start-vci* specifies the beginning value for a range of virtual channel identifiers (VCIs). Valid values are from 32 to 65535. • *end-vpi*/ specifies the end value for a range of virtual path identifiers (VPIs). The slash is required. If you do not provide a VPI value or the slash, the *start-vpi* value is used by default. Valid values for VPI are from 0 to 255. • *end-vci* specifies the end value for a range of virtual channel identifiers (VCIs). Valid values are from 32 to 65535.
Step 5	**pvc-in-range** [pvc-*name*] *vpi*/*vci* **Example:** `Router(config-if-atm-range)# pvc-in-range pvc 105/350`	Configures an individual PVC within a PVC range and enters ATM PVC range configuration mode. • (Optional) *pvc-name* is the name given to the PVC. The PVC name can have a maximum of 15 characters. • *vpi*/ is the virtual path identifier (VPI) for this PVC. The slash is required. If you do not specify a VPI value or the slash, the default value of 0 is used. Valid VPI values are from 0 to 255. • *vci* is the virtual circuit identifier (VCI) for this PVC. Valid values are from 32 to 2047.

	Command or Action	Purpose
Step 6	**service-policy** [**input** | **output**] *policy-map-name* **Example:** `Router(cfg-if-atm-range-pvc)# service-policy output Downstream_Rate`	Attaches the service policy you specify to the specified PVC within the ATM PVC range. • **input** indicates to apply the service policy to the inbound traffic on the interface. • **output** indicates to apply the service policy to the outbound traffic on the interface. **Note** For QoS policies containing the **bandwidth**, **priority**, **random-detect**, **queue-limit**, and **shape** commands, you must specify the **output** keyword. The router ignores these commands when you use them with the **input** keyword. • *policy-map-name* is the name of the policy map you want to attach to the subinterface. **Note** The router applies the service policy to only the individual ATM PVC within the PVC range.
Step 7	**end** **Example:** `Router(cfg-if-atm-range-pvc)# end`	Exits ATM PVC range configuration mode and enters privileged EXEC mode.

Configuration Examples for MQC Policy Map Support on Configured VC Range ATM

This section provides the following configuration examples:

- Attaching QoS Service Policies to a Range of ATM PVCs: Example, page 6
- Attaching QoS Service Policies to an Individual PVC Within a Range of ATM PVCs: Example, page 7

Attaching QoS Service Policies to a Range of ATM PVCs: Example

The following example configuration shows how to attach policy maps to a range of ATM PVCs. In the example, the service policy named voice is attached to the range of ATM PVCs 1/32 to 1/34. The router applies the service policy to all of the PVCs within the PVC range.

```
Router(config)# interface atm 2/0/0
Router(config-if)# range pvc 1/32 1/34
Router(config-if-atm-range)# service-policy input voice
```

Attaching QoS Service Policies to an Individual PVC Within a Range of ATM PVCs: Example

The following example configuration shows how to attach policy maps to a specific PVC within a PVC range. In the example, the service policy named data is attached to PVC 1/33 within the PVC range 1/32 to 1/34. The router applies the service policy to only PVC 1/33.

```
Router(config)# interface atm 2/0/0
Router(config-if)# range pvc 1/32 1/34
Router(config-if-atm-range)# service-policy input voice
Router(config-if-atm-range)# pvc-in-range 1/33
Router(config-if-atm-range-vc)# service-policy input data
```

Additional References

The following sections provide references related to MQC Policy Map Support on Configured VC Range.

Related Documents

Related Topic	Document Title
Cisco IOS commands	*Cisco IOS Master Commands List, All Releases*
ATM Commands	*Cisco IOS Asynchronous Transfer Mode Command Reference*
ATM PVC configuration	*Cisco IOS Asynchronous Transfer Mode Configuration Guide*
MQC policy maps	*Modular Quality of Service Command-Line Interface* feature
QOS Commands	*Cisco IOS Quality of Service Solutions Command Reference*
QOS Features	*Cisco IOS Quality of Service Solutions Configuration Guide*

MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature	To locate and download MIBs for selected platforms, Cisco IOS 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 website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for MQC Policy Map Support on Configured VC Range ATM

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

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS and Catalyst OS 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 Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 1 Feature Information for MQC Policy Map Support on Configured VC Range

Feature Name	Releases	Feature Information
MQC Policy Map Support on Configured VC Range ATM	12.2(28)SB 12.4(2)T 12.2(33)SRE	The Modular Quality of Service Command Line Interface (MQC) Policy Map support on configured VC range feature extends the functionality for policy maps on a single ATM VC to the ATM VC range. The following command was introduced or modified: **service-policy**

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