



# CHAPTER 25

## Configuring QoS

### Priority Queue

The Priority Queue window shows the priority queue parameters on each configured interface. Priority queuing is disabled by default.

#### Fields

- **Interface**—Shows the name of the interface.
- **Queue Limit**—Shows the maximum number of packets that can be enqueued to a normal or priority queue before it drops the connection.



**Note** Both queues have the same limit. Packets in the priority queue are totally drained before packets in the normal priority queue are transmitted.

- **Transmission Ring Limit**—Specifies the depth of the priority queues. If priority queuing is not enabled, this column shows the message: “Ring Disabled.”
- **Edit**—Opens the Edit Priority Queue dialog box, in which you can change the priority-queue parameters.

#### Modes

The following table shows the modes in which this feature is available:

Firewall Mode		Security Context		
			Multiple	
Routed	Transparent	Single	Context	System
•	•	•	—	—

### Add/Edit Priority Queue

The Add/Edit Priority Queue dialog box lets you create or change the priority queue parameters for a configured interface.

The transmission ring limit is the number of either type of packets allowed into the driver before the driver pushes back to the queues sitting in front of the interface to let them buffer packets until the congestion clears. In general, you can adjust the queue-limit and transmission ring limit parameters to optimize the flow of low-latency traffic.

Because queues are not of infinite size, they can fill and overflow. When a queue is full, any additional packets cannot get into the queue and are dropped. This is *tail drop*. To avoid having the queue fill up, you can adjust the queue-limit parameter to increase the queue buffer size.

#### Fields

- **Interface**—Identifies the selected interface. You cannot change this field.
- **Queue Limit**—Specifies the maximum number of packets that can be enqueued to a normal or priority queue before it drops the connection. The minimum is 0 packets, and the maximum is 250 packets.



**Note** Both queues have the same limit. Packets in the priority queue are totally drained before packets in the normal priority queue are transmitted.

- **Enable Transmission Ring**—Lets you configure the maximum number of packets allowed in the transmit queue at any given time
- **Transmission Ring Limit**—Specifies the maximum number of low-latency or normal priority packets allowed into the Ethernet transmit driver before the driver pushes back to the queues on the interface to let them buffer packets until the congestion clears. The minimum value is 3. The upper limit of the range of values for the **queue-limit** and **tx-ring-limit** commands is determined dynamically at run time. To view this limit, enter **help** or **?** on the command line. The key determinant is the memory needed to support the queues and the memory available on the device. The queues must not exceed the available memory. The theoretical maximum number of packets is 2147483647. If priority queuing is not enabled, this column shows the message: “Ring Disabled.”

#### Modes

The following table shows the modes in which this feature is available:

Firewall Mode		Security Context		
Routed	Transparent	Single	Multiple	
			Context	System
•	•	•	•	—

## WCCP

The Web Cache Communication Protocol (WCCP) feature lets you specify WCCP service groups and redirect web cache traffic. The feature transparently redirects selected types of traffic to a group of web cache engines to optimize resource usage and lower response times.

### WCCP Service Groups

The Service Groups panel lets you allocate space and enable support of the specified Web Cache Communication Protocol (WCCP) service group.

**Fields**

- **Service**—Displays the service group name or service group number for WCCP support.
- **Redirect List**—Displays the name of the access list that controls traffic redirected to a specific service group.
- **Group List**—Displays the name of the access list that determines which web caches are allowed to participate in the service group.

## Add or Edit WCCP Service Group

The Add or Edit Service Group dialog box lets you change the service group parameters for a configured service group.

**Fields**

- **Service**—Specifies the service group. You can specify the web cache service, or the identification number of the service.
- **Web Cache**—Specifies the web cache service. The maximum number of services, including those specified with a dynamic service identifier is 256.
- **Dynamic Service Number**—A dynamic service identifier, which means the service definition is dictated by the cache. The dynamic service number can be from 0 to 254. This is used as the name of the service group.
- **Redirect List**—The predefined access list that controls traffic redirected to this service group.
- **Group List**—The predefined access list that determines which web caches are allowed to participate in the service group.
- **Password**—Enter a password up to seven characters long, which is used for MD5 authentication for messages received from the service group. The password length is one to eight characters.
- **Confirm Password**—Reenter the password.
- **Manage**—Opens the access list manager.

**Modes**

The following table shows the modes in which this feature is available:

Firewall Mode		Security Context		
Routed	Transparent	Single	Multiple	
			Context	System
•	•	•	•	•

## Redirection

The Redirection panel lets you enable packet redirection on the ingress of an interface using WCCP.

**Fields**

- **Interface**—Displays the interface on which WCCP redirection is enabled.
- **Service Group**—Displays the name of the service group configured for WCCP..

**Modes**

The following table shows the modes in which this feature is available:

Firewall Mode		Security Context		
Routed	Transparent	Single	Multiple	
			Context	System
•	•	•	•	•

**Add or Edit WCCP Redirection**

The Redirection panel lets you enable packet redirection on the ingress of an interface using WCCP.

**Fields**

- **Interface**—Select the interface on which to enable WCCP redirection.
- **Service Group**—Select the service group.
- **Add Service**—Opens the Add/Edit WCCP Service Group dialog box.

**Modes**

The following table shows the modes in which this feature is available:

Firewall Mode		Security Context		
Routed	Transparent	Single	Multiple	
			Context	System
•	•	•	•	•

**WCCP**

The Web Cache Communication Protocol (WCCP) feature lets you monitor WCCP service groups and redirect web cache traffic. The feature transparently redirects selected types of traffic to a group of web cache engines to optimize resource usage and lower response times.

**WCCP Service Groups**

The Service Groups panel lets you view allocated space and display the properties of the specified Web Cache Communication Protocol (WCCP) service group.

**Fields**

- **Service Group**—Displays the service group name or service group number for WCCP support.
- **Display Mode**—Select the mode to display the WCCP information in the output area. The choices are Detail, View, Service, Hash, and Buckets. The Destination address and port fields and Source address and port fields correspond only to the Hash Display mode.

**Modes**

The following table shows the modes in which this feature is available:

Firewall Mode		Security Context		
Routed	Transparent	Single	Multiple	
			Context	System
•	•	•	•	•

## Redirection

The Redirection panel lets you view details about enabled packet redirection on the ingress of an interface using WCCP.

### Fields

- **Show Summary**—Displays summarized information about the interface on which WCCP redirection is enabled.
- **Show Details**—Displays detailed information about the interface on which WCCP redirection is enabled.

### Modes

The following table shows the modes in which this feature is available:

Firewall Mode		Security Context		
Routed	Transparent	Single	Multiple	
			Context	System
•	•	•	•	•

