

QoS Features

Table 1 describes the major QoS features supported on the E Series router.

Table 1: QoS Features

Feature	Description
Best effort	Default traffic class for packets being forwarded across the device. Packets that are not assigned to a specific traffic class are assigned to the best-effort traffic class.
Differentiated services	<ul style="list-style-type: none">■ Assured forwarding—See RFC 2597.■ Expedited forwarding—See RFC 2598.
Drop profile	Template that specifies active queue management in the form of WRED behavior of an egress queue.
Port shaping	Shapes the aggregate traffic through a port or channel to a rate that is less than the line or port rate.
QoS parameters	Creates a queuing architecture without the numeric subscriber rates and weights in scheduler profiles. You then use the same QoS and scheduler profiles across all subscribers who use the same services but at different bandwidths, reducing the total number of QoS profiles and scheduler profiles required.
QoS port-type profile	QoS profile that is automatically attached to ports of the corresponding type if you do not explicitly attach a QoS profile.
QoS profile	Collection of QoS commands that specify queue profiles, drop profiles, scheduler profiles, and statistics profiles in combination with interface types.
Queue profile	Template that specifies the buffering and tail-dropping behavior of an egress queue.
Rate shaping	<p>Mechanism that throttles the rate at which an interface can transmit packets.</p> <p><i>Note:</i> Rate shaping as presented in policy management in releases before JUNOS Release 4.0 is deprecated and converted to QoS profiles and scheduler profiles.</p>
Relative strict-priority scheduling	Provides strict-priority scheduling within a shaped aggregate rate. For example, it lets you provide 1 Mbps of aggregate bandwidth to a subscriber, with up to 500 Kbps of the bandwidth for low-latency traffic. If there is no strict-priority traffic, the low-latency traffic can use up to the full aggregate rate of 1 Mbps.
Scheduler profile	Configures the bandwidth at which queues drain as a function of relative weight, assured rate, and shaping rate.
Shared rate shaping	Mechanism for shaping a logical interface's aggregate traffic to a rate when the traffic for that logical interface is queued through more than one scheduler hierarchy.

Table 1: QoS Features *(continued)*

Feature	Description
Statistics profile	Template that specifies rate statistics and event-gathering characteristics.
Strict-priority scheduling	Designates the traffic class (queue) that receives top priority for transmission of its packets through a port. It is implemented with a special strict-priority scheduler node that is stacked directly above the port.
Traffic class	<p>A chassis-wide grouping of queues and buffers that support transmission of a designated set of traffic across the chassis, from ingress line module, through the switch fabric, and onto the egress line module.</p> <p>The router supports up to eight traffic classes, and therefore up to eight queues per logical interface.</p>
Traffic-class group	<p>Separate hierarchy of scheduler nodes and queues over a port. A traffic-class group uses one level of the scheduler hierarchy, level 1.</p> <p>Traffic classes belong to the default group unless they are specifically assigned to a named group. All queues are stacked in a single scheduler hierarchy above the physical port. When you configure a traffic class inside a group, its queues are stacked separately. The most common reason for creating separate scheduler hierarchies is to implement strict priority scheduling for all queues in the group.</p> <p>The router supports up to four traffic-class groups. A traffic class cannot belong to more than one group.</p>
WRED	Signals end-to-end protocols such as TCP that the router is becoming congested along a particular egress path. The intent is to trigger TCP congestion avoidance in a random set of TCP flows before congestion becomes severe and causes tail dropping on a large number of flows.

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