

QoS Terms

Table 1 defines terms used in this discussion of QoS.

Table 1: QoS Terminology

Term	Description
Assured rate	Bandwidth guaranteed until the node below in the scheduler hierarchy is oversubscribed.
Best effort	Network forwards as many packets as possible in as reasonable a time as possible. This is the default per-hop behavior (PHB) for packet transmission.
Best-effort queue	For a logical interface, the queue associated with the best-effort traffic class for that logical interface.
Best-effort scheduler node	The scheduler node associated with a logical interface and traffic class group pair, and where the traffic class group contains the best-effort traffic class. Also known as best-effort node.
CDV	Cell delay variation. Measures the difference between a cell's expected and actual transfer delay. Determines the amount of jitter.
CDVT	Cell delay variation tolerance. Specifies the acceptable tolerance of CDV (jitter).
Effective weight	The result of a weight or an assured rate. Users configure the scheduler node by specifying either an assured rate or a weight within a scheduler profile. An assured rate, in bits per second, is translated into a weight. The resultant weight is referred to as an effective weight.
Group node	A scheduler node associated with a {port interface, traffic-class group} pair. Because the logical interface is the port, only one such scheduler node can exist for each traffic-class group above the port. This node aggregates all traffic for traffic classes in the group.
HAR	Hierarchical assured rate. Dynamically adjusts bandwidth for scheduler nodes.
HRR	Hierarchical round-robin. Allocates bandwidth to queues in proportion to their weights.
Latency	Delay in the transmission of a packet through a network from beginning to end.
Proprietary QoS Management Information Base (MIB)	Supported on the E Series router.
Queue	First-in-first-out (FIFO) set of buffers that control packets on the data path.

Table 1: QoS Terminology *(continued)*

Term	Description
QoS port-type profile	Supplies the QoS information for forwarding interfaces stacked above ports of the associated interface type.
QoS profile attachment	Applies the rules in the QoS profile to a specific interface.
Rate shaping	Allows you to throttle a queue to a specified rate.
RED	Random early detection congestion avoidance technique.
Scheduler hierarchy	A hierarchical, tree-like arrangement of scheduler nodes and queues. The router supports up to three levels of scheduler nodes stacked above a port. The port scheduler is at level 0, with two levels of scheduler nodes at levels 1 and 2. A final level of queues is stacked above the nodes.
Scheduler node	An element within the hierarchical scheduler that implements bandwidth controls for a group of queues. Queues are stacked above scheduler nodes in a hierarchy. The root node is associated with a channel or physical port.
Shaping rate	Bandwidth in a queue or node can be throttled to a specified rate.
Shared shaper constituent	All nodes and queues that are associated with a logical interface that is being shared shaped are considered potential constituents of the shared shaper.
Weight	Specifies the relative weight for queues in the traffic class.
WRED	Weighted random early detection congestion avoidance technique.

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