

QoS on the E Series Router Overview

QoS is a suite of features that configure queuing and scheduling on the forwarding path of the Juniper Networks E Series Broadband Services Routers. QoS provides a level of predictability and control beyond the best-effort delivery that the router provides by default. Best-effort service provides packet transmission with no assurance of reliability, delay, jitter, or throughput.

QoS as developed for E Series routers conforms to the IETF Differentiated Services (DiffServ) model (RFCs 2597 and 2598). DiffServ networks classify packets into one of a small number of aggregated flows or traffic classes for which you can configure different QoS characteristics. The Juniper Networks QoS architecture extends DiffServ to support edge features such as high-density queuing.

The E Series router supports:

- IETF architecture for differentiated services
- Assured forwarding per-hop-behavior (PHB) groups
- Expedited forwarding PHB groups

The router supports configurable queuing and scheduling. It has an application-specific integrated circuit (ASIC) scheduler that supports thousands of queues in a hierarchical round-robin (HRR) scheduler. The scheduler allows the router to allocate separate queues for each forwarding interface. Separate queues enable fair access to buffers and bandwidth for each subscriber connected to the router.

Allocating queues per interface allows an Internet service provider (ISP) to shape an individual subscriber's traffic flows to specified rates independent of the underlying Layer 2 network type.

Related Topics ■ For a list of related RFCs, see [Configuring QoS on the E Series Router](#)

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