THE QoS BASELINE
AT–A–GLANCE

The QoS Baseline is a strategic document designed to unify QoS within Cisco. The QoS Baseline provides uniform, standards-based recommendations to help ensure that QoS products, designs, and deployments are unified and consistent.

The QoS Baseline defines up to 11 classes of traffic that may be viewed as critical to a given enterprise. A summary of these classes and their respective standards-based markings and recommended QoS configurations are shown below.

Interactive-Video refers to IP Video-Conferencing; Streaming Video is either unicast or multicast uni-directional video; Voice refers to VoIP bearer traffic only (and does not include Call-Signaling traffic).

The (Locally-Defined) **Mission-Critical** class is intended for a subset of Transactional Data applications that contribute most significantly to the business objectives (this is a non-technical assessment).

The **Transactional Data** class is intended for foreground, user-interactive applications such as database access, transaction services, interactive messaging, and preferred data services.

The **Bulk Data** class is intended for background, non-interactive traffic flows, such as large file transfers, content distribution, database synchronization, backup operations, and email.

The **IP Routing** class is intended for IP Routing protocols, such as Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), and etc.

The **Call-Signaling** class is intended for voice and/or video signaling traffic, such as Skinny, SIP, H.323, etc.

The **Network Management** class is intended for network management protocols, such as SNMP, Syslog, DNS, etc.

Standards-based marking recommendations allow for better integration with service-provider offerings as well as other internetworking scenarios.

Application	L3 Classification PHB	DSCP	Referencing Standard	Recommended Configuration
IP Routing	CS6	48	RFC 2474-4.2.2	Rate-Based Queuing + RED
Voice	EF	46	RFC 3246	RSVP Admission Control + Priority Queuing
Interactive-Video	AF41	34	RFC 2597	RSVP + Rate-Based Queuing + DSCP-WRED
Streaming Video	CS4	32	RFC 2474-4.2.2	RSVP + Rate-Based Queuing + RED
Mission-Critical	AF31	26	RFC 2597	Rate-Based Queuing + DSCP-WRED
Call-Signaling	CS3	24	RFC 2474-4.2.2	Rate-Based Queuing + RED
Transactional Data	AF21	18	RFC 2597	Rate-Based Queuing + DSCP-WRED
Network Mgmt	CS2	16	RFC 2474-4.2.2	Rate-Based Queuing + RED
Bulk Data	AF11	10	RFC 2597	Rate-Based Queuing + DSCP-WRED
Scavenger	CS1	8	Internet 2	No BW Guarantee + RED
Best Effort	0	0	RFC 2474-4.1	BW Guarantee Rate-Based Queuing + RED

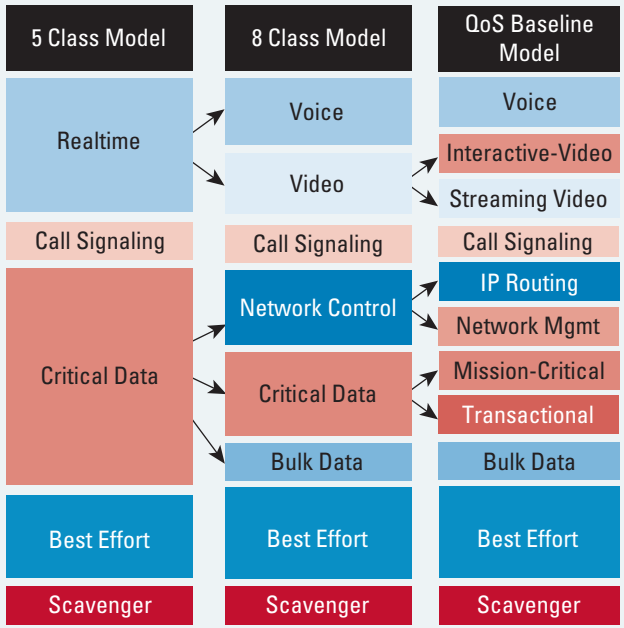
In Cisco IOS Software , rate-based queuing translates to CBWFQ; priority queuing is LLQ.DSCP-Based WRED (based on RFC 2597) drops AFx3 before AFx2, and in turn drops AFx2 before AFx1. RSVP is recommended (whenever supported) for Voice and/or Interactive-Video admission control

Cisco products that support QoS features will use these QoS Baseline recommendations for marking, scheduling, and admission control.

The **Scavenger** class is based on an Internet 2 draft that defines a "less-than-Best Effort" service. In the event of link congestion, this class will be dropped the most aggressively.

The **Best Effort** class is also the default class. Unless an application has been assigned for preferential/deferential service, it will remain in this default class. Most enterprises have hundreds—if not thousands—of applications on their networks; the majority of which will remain in the Best Effort service class.

The QoS Baseline recommendations are intended as a standards-based guideline for customers-not as a mandate. Customers do not have to deploy all 11 traffic classes, but may start with simple QoS models and expand over time as business needs arise, as shown in the diagram to the right.



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