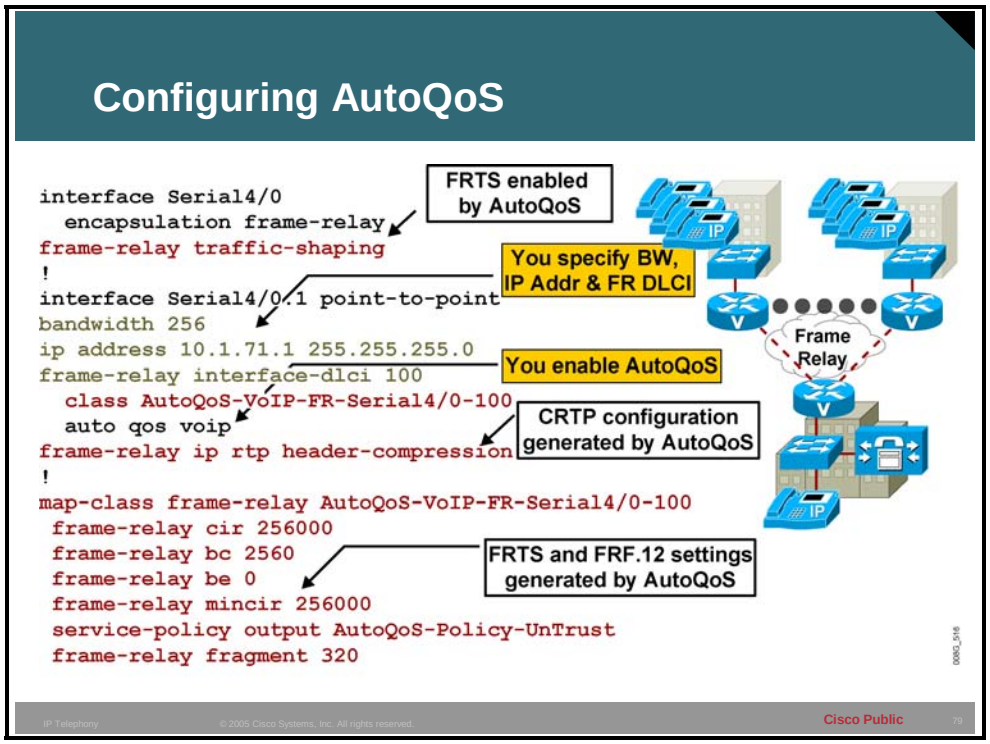
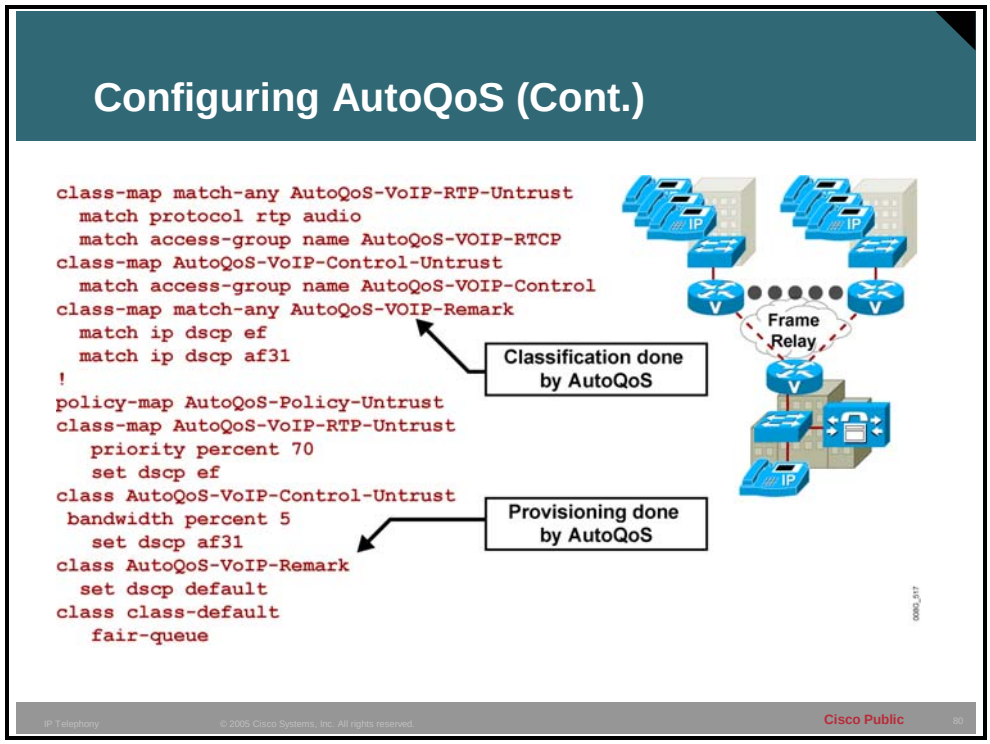
Configuring QoS in the WAN

Configuring AutoQoS

This topic describes Cisco AutoQoS and its associated command structure for routers.





Cisco AutoQoS is innovative technology that minimizes the complexity, time, and operating cost of QoS deployment. Cisco AutoQoS incorporates value-added intelligence into Cisco IOS software and Cisco Catalyst Operating Service software to provision and manage large-scale QoS deployments.

The first phase of Cisco AutoQoS targets VoIP deployments for customers who want to deploy IP telephony, but who lack the expertise or staffing to plan and deploy IP QoS and IP services.

Cisco AutoQoS automates consistent deployment of QoS features across Cisco routers and switches. It enables various Cisco QoS components based on the network environment and Cisco best-practice recommendations. With the increased prominence of delay-sensitive applications (voice, video, and other multimedia applications) deployed in networks today, proper QoS configuration will ensure high-quality application performance.

Currently, this presupposes a deep understanding of various QoS features (that is, queuing, dropping, traffic conditioning, queue-depth, drop thresholds, burst parameters, LFI, and CRTP) and the complexities of configuring many parameters associated with these features. Cisco AutoQoS helps overcome these difficulties by automatically configuring the device for Cisco QoS features and variables with the correct parameters.

Users can subsequently tune parameters that are generated by Cisco AutoQoS to suit their particular application needs, as desired.

Cisco AutoQoS performs the following functions:

On WAN interfaces:

- Automatically classifies RTP payload and VoIP control packets (H.323, H.225 Unicast, Skinny, session initiation protocol [SIP], MGCP)

- Builds service policies for VoIP traffic that are based on Cisco Modular QoS Command Line Interface (MQC)
- Provisions LLQ—Priority Queuing for VoIP bearer and bandwidth guarantees for control traffic
- Enables WAN traffic shaping that adheres to Cisco best practices, where required
- Enables link efficiency mechanisms, such as LFI and RTP header compression (CRTP), where required
- Provides SNMP and SYSLOG alerts for VoIP packet drops

On LAN interfaces:

- Enforces the trust boundary on Cisco Catalyst switch access ports, uplinks, and downlinks
- Enables Cisco Catalyst strict priority queuing (also known as expedite queuing) with WRR scheduling for voice and data traffic, where appropriate
- Configures queue admission criteria (maps CoS values in incoming packets to the appropriate queues)
- Modifies queue sizes and weights where required

Note Cisco AutoQoS is available in the following Cisco IOS software releases: Cisco IOS Software Release 12.1E or later for the Cisco Catalyst 2950 and 3550 series switches; Cisco IOS Software Release 12.2T or later for the Cisco 2600, 2600XM, 3600, 3700, and 7200 series routers; Cisco IOS Software Release 12.1E or later for the Cisco Catalyst 4500 series switches; and Cisco Catalyst OS 7.5.1 or later for the Cisco Catalyst 6500 series switches.

Typically, QoS network design and implementation over multiple LAN and WAN sites is fairly complex and labor intensive. Customers wish to reduce deployment time, provisioning errors, and operating expenses to optimize their network for the applications, while retaining the flexibility to subsequently fine-tune QoS.

To expedite QoS deployment, the user interface must be simplified. Cisco AutoQoS addresses this by automating the five main aspects of QoS deployment (Application Classification, Policy Generation, Configuration, Monitoring and Reporting, and Consistency) while adding control plane intelligence to create a simple, accelerated, and tunable solution.

