COMPUTER LEARNING CENTRE
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CISCO PARTNER Learning

Training overview

Implementing Cisco Quality of Service (QoS)

Description

The **Implementing Cisco Quality of Service (QoS)** training provides you with in-depth knowledge of QoS requirements, conceptual models such as best effort, IntServ, and DiffServ, and the implementation of QoS on Cisco platforms. The training covers the theory of QoS, design issues, and configuration of various QoS mechanisms to facilitate the creation of effective administrative policies providing QoS.

The training also gives you design and usage rules for advanced QoS features. This gives you the opportunity to design and implement efficient, optimal, and trouble-free multiservice networks. The new version of the training also includes QoS for modern wireless networks and Software-defined networks. This training also earns you 40 Continuing Education (CE) credits toward recertification.

How you'll benefit

This training will help you:

- Gain the skills to identify, describe, and correctly implement the appropriate QoS mechanisms that are required to create an effective administrative policy providing QoS
- Get the knowledge for designs and usage rules for advanced QoS features
- Earn 40 CE credits toward recertification

Who should enroll

- Pre-and post-sales technical engineers responsible for designing, implementing, or troubleshooting networks
- Network architects responsible for designing multiservice networks to carry voice, video, and data traffic in enterprise or service provider environments

Technology areas

- QualityofService

Objectives

- Explain the need for QoS, describe the fundamentals of QoS policy, and identify and describe the different models that are used for ensuring QoS in a network
- Explain the use of MQC and AutoQoS to implement QoS on the network and describe some of the mechanisms used to monitor QoS implementations
- Give a converged network and a policy defining QoS on the network and describe some of the mechanisms used to monitor QoS implementations
- Use Cisco QoS queuing mechanisms to manage network congestion
- Use Cisco QoS congestion avoidance mechanisms to reduce the effects of congestion on the network
- Describe how link efficiency mechanisms can be used collectively to improve bandwidth efficiency and reduce delay
- Describe the need for wireless QoS in WLANs due to the expansion of high-bandwidth data applications and time-sensitive multimedia applications in vertical and enterprise environments, and the need for a unified approach to support multi-vendor time-sensitive applications and accelerate the adoption rate of QoS
- Describe the need for QoS in modern Software-Defined Networks (SDN) for ensuring reliable performance of crucial applications and services
- Describe the steps and best practices for optimally deploying QoS and understand the network elements involved in an enterprise end-to-end QoS deployment, as well as the importance of QoS interaction between the enterprise and service provider networks

Prerequisites

Thereareno prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are found in the following Cisco Learning Offering:

- Implementing and Administering Cisco Solutions (CCNA)

Outline

- Introduction to QoS
- Implement and Monitor QoS
- Classification
- Marking
- Congestion Management
- Congestion Avoidance
- Traffic Policing and Shaping
- Link Efficiency Mechanisms
- Introducing QoS for Modern Wireless Networks
- Introducing QoS for Software-Defined Networks
- Deploying End-to-End QoS

Lab Outline

- QoSMechanisms
- IP SLA Setup and QoS Baseline Measurement
- Configuring QoS with Cisco AutoQoS
- Classification and Marking

- Classification and Marking Using MQC
- Using NBAR for Classification
- Configuring QoS Preclassify
- Campus Classification and Marking Using MQC
- Configuring Fair Queuing
- Configuring LLQ-CBWFQ
- Configuring Campus-Based Queuing Mechanisms
- WRED Traffic Profiles
- Configuring DSCP-Based WRED
- Configuring WTD Thresholds
- Configuring Class-Based Policing
- Configuring Class-Based Shaping
- Configuring Class-Based Header Compression
- Configuring LFI