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Learning Style: Virtual Classroom

Technology: Cisco

Difficulty: Intermediate

Course Duration: 5 Days

Implementing Cisco Quality Of Service v2.5 (QoS)



About this course:

Implementing Cisco Quality of Service (QoS) v2.5 is a 5-day training program that provides learners 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 curriculum covers the theory of QoS, design issues, and configuration of various QoS mechanisms to facilitate the creation of effective administrative policies providing QoS.

Case studies and lab exercises included in the course help learners to apply the concepts from the individual modules to real-life scenarios. The course also gives learners design and usage rules for advanced QoS features. This gives the learners the opportunity to design and implement efficient, optimal, and trouble-free multiservice networks.

Advance your Cisco career with this Cisco training course and learn more about Cisco Quality of Service training (Cisco QoS training) by signing up with QuickStart today!

Course Objective:

Upon completing this course, the learner will be able to meet these overall objectives:

- You will be able to identify, describe, and correctly implement the appropriate QoS mechanisms required to create and effective administrative policy providing QoS.

Audience:

The primary audience for this course are as follows:

- 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
- Advanced Unified Communications Specialization
- Master UC Specialization
- Master Telepresence ATP

Secondary audiences are:

- CCIE R&S Candidates

Prerequisite:

The knowledge and skills that a learner must have before attending this course are as follows:

- Interconnecting Cisco Networking Devices, Part 1 and 2 (ICND1 and ICND2)
- Cisco Certified Networking Associate

Course Outline:

Module 1: Introduction to QoS

- Lesson 1: Review Converged Networks

- Lesson 2: Understand QoS
- Lesson 3: Describe Best-Effort and Integrated Services Models
- Lesson 4: Describe the Differentiated Services Model
- Lesson 5: Module Summary
- Lesson 6: Module Self-Check

Module 2: Implement and Monitor QoS

- Lesson 1: MQC Introduction
- Lesson 2: Monitor QoS
- Lesson 3: Define Campus AutoQoS
- Lesson 4: Define WAN AutoQoS
- Lesson 5: Module Summary
- Lesson 6: Module Self-Check

Module 3: Classification and Marking

- Lesson 1: Classification and Marking Overview
- Lesson 2: MQC for Classification and Marking
- Lesson 3: NBAR for Classification
- Lesson 4: Use of QoS Preclassify
- Lesson 5: Campus Classification and Marking
- Lesson 6: Module Summary
- Lesson 7: Module Self-Check

Module 4: Congestion Management

- Lesson 1: Queuing Introduction
- Lesson 2: Configure WFQ
- Lesson 3: Configure CBWFQ and LLQ
- Lesson 4: Configure Campus Congestion Management
- Lesson 5: Module Summary
- Lesson 6: Module Self-Check

Module 5: Congestion Avoidance

- Lesson 1: Congestion Avoidance Introduction
- Lesson 2: Configure Class-Based WRED
- Lesson 3: Configure ECN
- Lesson 4: Describe Campus-Based Congestion Avoidance
- Lesson 5: Module Summary
- Lesson 6: Module Self-Check

Module 6: Traffic Policing and Shaping

- Lesson 1: Traffic Policing and Shaping Overview
- Lesson 2: Configure Class-Based Policing
- Lesson 3: Campus Policing
- Lesson 4: Configure Class-Based Shaping
- Lesson 5: Configure Class-Based Shaping on Frame Relay Interfaces

- Lesson 6: Configure Frame Relay Voice-Adaptive Traffic Shaping and Fragmentation
- Lesson 7: Module Summary
- Lesson 8: Module Self-Check

Module 7: Link Efficiency Mechanisms

- Lesson 1: Link Efficiency Mechanisms Overview
- Lesson 2: Configure Class-Based Header Compression
- Lesson 3: Configure LFI
- Lesson 4: Module Summary
- Lesson 5: Module Self-Check

Module 8: Deploying End-to-End QoS

- Lesson 1: Apply Best Practices for QoS Policy Design
- Lesson 2: End-to-End QoS Deployments
- Lesson 4: Module Self-Check

Lab Outline

- Lab 0: Connection and Orientation to the NterOne Voice Lab Environment
- Lab 1: Implementing Basic CUCM configurations and Cisco IP Phones
- Lab 2: Implementing Cisco Unified Border Element (CUBE) for calls to and from the Actual PSTN
- Lab 3: Case Study 1-1: QoS Mechanisms
- Lab 4: Packet Generator Configuration
- Lab 5: Lab 5: IP SLA Setup and QoS Baseline Measurement
- Lab 6: Configuring QoS with Cisco AutoQoS
- Lab 7: Case Study 3-1: Classification and Marking
- Lab 8: Classification and Marking Using MQC
- Lab 9: Using NBAR for Classification
- Lab 10: Configuring QoS Pre-classify
- Lab 11: Configuring Fair Queuing
- Lab 12: Configuring LLQ-CBWFQ
- Lab 13: Case Study 5-1: WRED Traffic Profiles
- Lab 14: Configuring DSCP-Based WRED
- Lab 15: Configuring Class-Based Policing
- Lab 16: Configuring Class-Based Shaping
- Answer Key: Case Study 1-1
- Answer Key: Case Study 3-1
- Answer Key: Case Study 5-1

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