Implementing Cisco Quality of Services

Description

This Implementing Cisco Quality of Service (QOS) course provides learners with an in-depth knowledge of QoS requirements, conceptual QoS models such as best effort, IntServ, and DiffServ are all reviewed along with the best practices for a QoSi mplementation 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.Learners are provided with design and usage rule for advanced QoS features, giving them the opportunity to design and implement efficient, optimal, and trouble-free multiservice networks.

Classroom Registration Price (CHF)
4350
Virtual Classroom Registration Price (CHF)
4090
Course Content
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 3: Module Summary
- Lesson 4: Module Self-Check

Lab / Exercises
Lab 1: Connection and Orientation to the Voice Lab Environment Lab 2: Implementing Basic CUCM configurations and Cisco IP Phones Lab 3: Implementing Cisco Unified Border Element (CUBE) for calls to and from the Actual PSTN Lab 4: Case Study: QoS Mechanisms Lab 5: Packet Generator Configuration Lab 6: Lab 5: IP SLA Setup and QoS Baseline Measurement Lab 7: Configuring QoS with Cisco AutoQoS Lab 8: Case Study: Classification and Marking Lab 9: Classification and Marking Using MQC Lab 10: Using NBAR for Classification Lab 11: Configuring QoS Pre-classify Lab 12: Configuring Fair Queuing Lab 13: Configuring LLQ-CBWFQ Lab 14: Case Study: WRED Traffic Profiles Lab 15 Configuring DSCP-Based WRED Lab 16: Configuring Class-Based Policing Lab 17: Configuring Class-Based Shaping
Documentation

- Digital courseware included

Participant profiles

- 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

Prerequisites

- Having followed: CCNA - Implementing and Administering Cisco Solutions

Objectives

- Explain the need for QoS, describe the fundamentals of QoS policy, 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
- Classify and mark network traffic in order to implement the polic, when given a converged network and a policy defining QoS requirements
- Use Cisco queuing mechanisms to manage network congestion
- Use Cisco QoS congestion avoidance mechanisms to reduce the effects of congestion on the network
- Use Cisco QoS traffic policing and traffic shaping mechanisms to effectively limit the rate of network traffic

Niveau
Avancé
Duration (in Days)
5
Reference
CIS-QOS