Implementing Cisco Quality of Service (QoS)

Cisco

Live Training (também disponível em presencial)

- **Localidade:** Porto
- **Data:** 20 Nov 2023
- **Preço:** 2495 € (Os valores apresentados não incluem IVA. Oferta de IVA a particulares e estudantes.)
- **Horário:** Laboral das 09h00 - 17h00
- **Nível:** Avançado
- **Duração:** 35h

Sobre o curso

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.

After you complete this course you will be able to:

- 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.
- Given a converged network and a policy defining QoS requirements, classify and mark network traffic in order to implement the policy.
- 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

- Use Cisco link efficiency mechanisms to improve the bandwidth efficiency of low-speed WAN links
- Describe the recommended best practices and methods used for end-to-end QoS deployment in the enterprise.

Destinatários

- This course is aimed at pre-and post-sales technical engineers responsible for designing, implementing, or troubleshooting networks and network architects responsible for designing multiservice networks to carry voice, video, and data traffic in enterprise or service provider environments.

Pré-requisitos

Attendees should meet the following prerequisites:

- Valid CCNA

Programa

- Introduction to QoS
- Implement and Monitor QoS
- Classification and Marking
- Congestion Management
- Congestion Avoidance
- Traffic Policing and Shaping
- Link Efficiency Mechanisms
- Deploying End-to-End QoS

Introduction to QoS

- Review Converged Networks
- Understand QoS
- Describe Best-Effort and Integrated Services Models
- Describe the Differentiated Services Model

Implement and Monitor QoS

- MQC Introduction

- Monitor QoS
- Define Campus AutoQoS
- Define WAN AutoQoS

Classification and Marking

- Classification and Marking Overview
- MQC for Classification and Marking
- NBAR for Classification
- Use of QoS Preclassify
- Campus Classification and Marking

Congestion Management

- Queuing Introduction
- Configure WFQ
- Configure CBWFQ and LLQ
- Configure Campus Congestion Management

Congestion Avoidance

- Congestion Avoidance Introduction
- Configure Class-Based WRED
- Configure ECN
- Describe Campus-Based Congestion Avoidance

Traffic Policing and Shaping

- Traffic Policing and Shaping Overview
- Configure Class-Based Policing
- Campus Policing
- Configure Class-Based Shaping
- Configure Class-Based Shaping on Frame Relay Interfaces
- Configure Frame Relay Voice-Adaptive Traffic Shaping and Fragmentation

Link Efficiency Mechanisms

- Link Efficiency Mechanisms Overview
- Configure Class-Based Header Compression
- Configure LFI

Deploying End-to-End QoS

- Apply Best Practices for QoS Policy Design

- End-to-End QoS Deployments

Labs

- Lab 2-1: IP SLA Setup and QoS Baseline Measurement
- Lab 2-2: Configuring QoS with Cisco AutoQoS
- Case Study 3-1: Classification and Marking
- Lab 3-2: Classification and Marking Using MQC
- Lab 3-3: Using NBAR for Classification
- Lab 3-4: Configuring QoS Preclassify
- Lab 3-5: Campus Classification and Marking Using MQC
- Lab 4-1: Configuring Fair Queuing
- Lab 4-2: Configuring LLQ-CBWFQ
- Lab 4-3: Configuring Campus-Based Queuing Mechanisms
- Case Study 5-1: WRED Traffic Profiles
- Lab 5-2: Configuring DSCP-Based WRED