

Implementing Cisco Service Provider Next-Generation Core Network Services (SPCORE)

Duration 5 Days

COURSE CONTENT

This Instructor Lead Training course is #3 of 4. It will prepare students for the SPCORE exam required for the new CCNP-SP Certification. This certification is designed to prepare students to work at the Professional level in a Service Provider environment.

COURSE OBJECTIVES

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

- Describe the features of MPLS, and how MPLS labels are assigned and distributed.
- Discuss the requirement for traffic engineering in modern networks that must attain optimal resource utilization.
- Introduce the concept of QoS and explain the need to implement QoS.
- Classify and mark network traffic to implement an administrative policy requiring QoS.
- Introduce different Cisco QoS queuing mechanisms used to manage network congestion.
- Introduce the concept of traffic policing and shaping, including token bucket, dual token bucket, and dual-rate policing.

COURSE OUTLINE

Module 1: Multiprotocol Label Switching

- Lesson 1: Introducing MPLS
- Lesson 2: Running Label Distribution Protocol
- Lesson 3: Implementing MPLS in the Service Provider Core

Module 2: MPLS Traffic Engineering

- Lesson 1: Introducing MPLS Traffic Engineering Components
- Lesson 2: Running MPLS Traffic Engineering
- Lesson 3: Implementing MPLS TE
- Lesson 4: Protecting MPLS TE Traffic

Module 3: QoS in the Service Provider Network

- Lesson 1: Understanding QoS
- Lesson 2: Implementing Cisco QoS and QoS Mechanisms
- Lesson 3: Implementing MPLS Support for QoS

Module 4: QoS Classification and Marking

- Lesson 1: Understanding Classification and Marking
- Lesson 2: Using Modular QoS CLI
- Lesson 3: Implementing Advanced QoS Techniques

Module 5: QoS Congestion Management and Avoidance

- Lesson 1: Managing Congestion
- Lesson 2: Implementing Congestion Avoidance

Module 6: QoS Traffic Policing and Shaping

- Lesson 1: Understanding Traffic Policing and Shaping
- Lesson 2: Implementing Traffic Policing
- Lesson 3: Implementing Traffic Shaping

WHO SHOULD ATTEND

- Channel Partner / Reseller, Customer, Employee

PREREQUISITES

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

- Intermediate to advanced knowledge of Cisco IOS / IOS XE and Cisco IOS XR software configuration.

Skills and knowledge equivalent to those learned in:

- Building Cisco Service Provider Next-Generation Networks (SPNGN1), Part 1 course.
- Building Cisco Service Provider Next-Generation Networks (SPNGN2) Part 2 course.
- Deploying Cisco Service Provider Network Routing (SPROUTE) course.
- Deploying Cisco Service Provider Advanced Network Routing (SPADVROUTE) course.