

# Implementing Cisco Service Provider Advanced Routing Solutions

**ID SPRI** Price CHF 4,950.—(excl. VAT) **Duration** 5 days

## Who should attend

This course is for professionals who need knowledge about implementing various Service Provider core technologies and advanced routing technologies.

- Network administrators
- System engineers
- Project managers
- Network designers

## This course is part of the following Certifications

Cisco Certified Network Professional Service Provider (CCNP SERVICE PROVIDER)

## Prerequisites

Before taking this course, you should have Service Provider knowledge at the professional level, equivalent to the material in the following Cisco courses:

- Intermediate to advanced knowledge of Cisco Internetwork Operating System (Cisco IOS®) or IOS XE and Cisco IOS XR Software configuration
- Knowledge of IPv4 and IPv6 TCP/IP networking
- Intermediate knowledge of BGP, OSPF, and ISIS routing protocols
- Understanding of MPLS technologies
- Understanding of multicast technologies
- Familiarity with segment routing
- Knowledge at the professional level equivalent to those learned in the following certifications:
  - [Implementing and Administering Cisco Solutions \(CCNA\)](#)
  - [Understanding Cisco Service Provider Network Foundations \(SPFNDU\)](#)
  - [Implementing and Operating Cisco Service Provider Network Core Technologies \(SPCOR\)](#)

## Course Objectives

After taking this course, you should be able to:

- Describe the main characteristics of routing protocols that

- are used in Service provider environments
- Implement advanced features of multiarea Open Shortest Path First (OSPFv2) running in Service Provider networks
- Implement advanced features of multilevel Intermediate System to Intermediate System (ISIS) running in Service Provider networks
- Configure route redistribution
- Configure Border Gateway Protocol (BGP) in order to successfully connect the Service Provider network to the customer or upstream Service Provider
- Configure BGP scalability in Service Provider networks
- Implement BGP security options
- Implement advanced features in order to improve convergence in BGP networks
- Troubleshoot OSPF, ISIS, and BGP
- Implement and verify MPLS
- Implement and troubleshoot MPLS traffic engineering
- Implement and verify segment routing technology within an interior gateway protocol
- Describe how traffic engineering is used in segment routing networks
- Implement IPv6 tunneling mechanisms
- Describe and compare core multicast concepts
- Implement and verifying the PIM-SM protocol
- Implement enhanced Protocol-Independent Multicast - Sparse Mode (PIM-SM) features
- Implement Multicast Source Discovery Protocol (MSDP) in the interdomain environment
- Implement mechanisms for dynamic Rendezvous Point (RP) distribution

## Training Centres worldwide



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