

Implementing Cisco Service Provider Advanced Routing Solutions

ID SPRI Price 4,795.— €(excl. tax) **Duration 5 days**

Course Overview

The **Implementing Cisco Service Provider Advanced Routing Solutions (SPRI)** training teaches you theories and practices to integrate advanced routing technologies including routing protocols, multicast routing, policy language, Multiprotocol Label Switching (MPLS), and segment routing, expanding your knowledge and skills in service provider core networks.

This training prepares you for the 300-510 SPRI v1.1 exam. If passed, you earn the Cisco Certified Specialist – Service Provider Advanced Routing Implementation certification and satisfy the concentration exam requirement for the Cisco Certified Network Professional (CCNP) Service Provider certification. This training also earns you 37 Continuing Education (CE) credits toward recertification. **How You'll Benefit**

This training will help you:

- Gain the high-demand skills to maintain and operate advanced technologies related to Service Provider core networks
- Increase your knowledge and skills for implementing Service Provider core advanced technologies through hands-on application and practical instruction
- Prepare for the 300-510 SPRI v1.1 exam
- Earn 37 CE credits toward recertification

What to Expect in the Exam Implementing Cisco Service Provider Advanced Routing Solutions (300-510 SPRI) v1.1 is a 90-minute exam associated with the Cisco Certified Specialist – Service Provider certification and satisfies the concentration exam requirement for the [Cisco Certified Network Professional Service Provider \(CCNP SERVICE PROVIDER\)](#) certification.

This exam tests your knowledge of implementing service provider advanced routing technologies, including:

- Routing protocols
- Policy language
- MPLS
- Segment routing

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

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- 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

These skills can be found in the following Cisco Learning Offerings:

- [Implementing and Administering Cisco Solutions \(CCNA\) v2.2](#)
- [Implementing and Operating Cisco Service Provider Network Core Technologies \(SPCOR\)](#)

Course Objectives

- Configure multiarea OSPF

- Configure OSPF special area types and optimization features
- Configure IS-IS multilevel networks and optimization features
- Configure BGP to influence outbound and inbound BGP route selection
- Implement BGP route reflectors and confederations
- Describe the main characteristics of routing protocol tools that are used in service provider environments
- Implement the Routing Policy Language
- Configure route redistribution
- Troubleshoot routing protocols in the service provider network
- Describe, implement, and troubleshoot MPLS in service provider network
- Describe and implement segment routing technology
- Introduce and implement segment routing IPv6
- Implement BGP security options
- Implement advanced features to improve convergence in BGP networks
- Implement Topology Independent Loop-Free Alternate (TI-LFA)
- Describe Cisco MPLS traffic engineering
- Describe how traffic engineering is used in segment routing networks
- Implement and configure advanced SR-TE features
- Implement IPv6 tunneling mechanisms
- Describe IP multicast concepts and technologies
- Implement and verifying the PM-SM protocol
- Implement enhanced PIM-SM features
- Implement MSDP in the interdomain environment
- Implement mechanisms for dynamic RP distribution
- Implementing Segment Routing
- Segment Routing for IPv6
- Implementing Segment Routing for IPv6
- Segment Routing TI-LFA
- Segment Routing Traffic Engineering
- Advanced Segment Routing Traffic Engineering Features
- Securing BGP
- Deploying IPv6 Tunneling Mechanisms
- IP Multicast Concepts and Technologies
- Implementing PIM-SM Protocol
- Implementing PIM-SM Enhancements
- Implementing Interdomain IP Multicast
- Implementing MPLS
- Implementing Distributed Rendezvous Point Solution in Multicast Network

Detailed Course Outline

- Configure OSPF Multiarea Networks
- Configure OSPF Special Area Types
- Configure OSPF Optimization Features
- Configure IS-IS Multilevel Networks
- Configure IS-IS Optimization Features
- Introducing Routing Protocol Tools
- Introducing Routing Policy Language
- Influencing Outbound BGP Route Selection
- Influencing Inbound BGP Route Selection
- Scaling BGP in Service Provider Networks
- Implementing Route Redistribution
- Troubleshooting Routing Protocols
- Improving BGP Convergence and Implementing Advanced Operations
- Multiprotocol Label Switching
- Cisco MPLS Traffic Engineering
- Troubleshooting MPLS
- Segment Routing

About Fast Lane



Fast Lane is a global, award-winning specialist in technology and business training as well as consulting services for digital transformation. As the only global partner of the three cloud hyperscalers- Microsoft, AWS and Google- and partner of 30 other leading IT vendors, Fast Lane offers qualification solutions and professional services that can be scaled as needed. More than 4,000 experienced Fast Lane professionals train and advise customers in organizations of all sizes in 90 countries worldwide in the areas of cloud, artificial intelligence, cyber security, software development, wireless and mobility, modern workplace, as well as management and leadership skills, IT and project management.

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