

# Implementing Cisco Service Provider Advanced Routing Solutions (SPRI)

## Description

The Implementing Cisco Service Provider Advanced Routing Solutions (SPRI) course 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.

## Niveau

Avancé

## Course Content

- Implementing and Verifying Open Shortest Path First Multiarea Networks
- Implementing and Verifying Intermediate System to Intermediate System Multilevel Networks
- Introducing Routing Protocol Tools, Route Maps, and Routing Policy Language
- Implementing Route Redistribution
- Influencing Border Gateway Protocol Route Selection
- Scaling BGP in Service Provider Networks
- Securing BGP in Service Provider Networks
- Improving BGP Convergence and Implementing Advanced Operations
- Troubleshooting Routing Protocols
- Implementing and Verifying MPLS
- Implementing Cisco MPLS Traffic Engineering
- Implementing Segment Routing
- Describing Segment Routing Traffic Engineering (SR TE)
- Deploying IPv6 Tunneling Mechanisms
- Implementing IP Multicast Concepts and Technologies
- Implementing PIM-SM Protocol
- Implementing PIM-SM Enhancements
- Implementing Interdomain IP Multicast
- Implementing Distributed Rendezvous Point Solution in Multicast Network

## Lab / Exercises

- Implement OSPF Special Area Types (IPv4 and IPv6)
- Implement Multiarea IS-IS
- Implement Route Redistribution
- Influence BGP Route Selection
- Implement BGP Route Reflectors
- Implement BGP Security Options
- Troubleshoot Routing Protocols
- Implement MPLS in the Service Provider Core
- Implement Cisco MPLS TE
- Configure and Verify Interior Gateway Protocol (IGP) Segment Routing
- Implement Tunnels for IPv6
- Enable and Optimize PIM-SM

- Implement PIM-SM Enhancements
- Implement Rendezvous Point Distribution

## **Documentation**

- Digital courseware included

## **Exam**

- This course prepares you to the 300-510 SPRI Implementing Cisco® Service Provider Advanced Routing Solutions exam. If you wish to take this exam, please contact our secretariat who will let you know the cost of the exam and will take care of all the necessary administrative procedures for you.

## **Participant profiles**

- Administrators, network designers
- System engineer

## **Prerequisites**

- Advanced knowledge of the Cisco inter-network operating system (Cisco IOS®)
- Knowledge of IPv4 and IPv6 TCP / IP networks and BGP, OSPF and ISIS protocols
- Understanding of MPLS and multicast technologies
- Having followed or mastered the concepts included in the following course: [Implementing and Administering Cisco Solutions](#)

## **Objectives**

- Describe the routing protocols used by service providers
- Implement advanced features of OSPFv2 (Open Shortest Path First)
- Implement advanced features of the multi-tiered intermediate system (ISIS)
- Configure route redistribution
- Configure BGP (Border Gateway Protocol), security and scalability
- Troubleshoot OSPF, ISIS and BGP
- Implement and troubleshoot MPLS traffic engineering
- Implement and verify segment routing technology in an indoor gateway protocol
- Describe the traffic engineering used in segment routing networks
- Implement IPv6 tunneling mechanisms
- Describe and compare the main concepts of multicasting
- Implement enhanced protocol independent multicast functionality - Scattered Mode (PIM-SM)
- Implement the Multicast Source Discovery Protocol (MSDP)
- Implement dynamic distribution mechanisms of Rendezvous Point (RP)

## **Virtual Classroom Registration Price (CHF)**

4350

## **Duration (in Days)**

5

## **Reference**

CIS-SPRI