

Cisco® Implementing Cisco® Service Provider Advanced Routing Solutions v1.0 (SPRI)

Overview

This 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.

This course also prepares you for the CCNP-Service Provider exam 300-510.

Prerequisite Comments

Before taking this course, you should have the following knowledge and skills:
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

Target Audience

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

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

[Register Online](#)

Schedule

Class Length: 5 Days

G2R = "Guaranteed to Run" | OLL = "Online LIVE"
ILT = "Instructor-Led-Training"

This course is not currently available on the public schedule. Please contact us using the information in the footer below to inquire about future dates or to schedule a private class.

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

Course Outline

1 - COURSE OUTLINE

IMPLEMENTING AND VERIFYING OPEN SHORTEST PATH FIRST MULTI AREA 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