FIREFLY

CISCO PARTNER Platinum Learning

Implementing and Operating Cisco Service Provider Network Core Technologies

DURATION: 5 DAYS | **PRICE:** USD 4290

COURSE CODE: SPCOR | **FORMAT:** Lecture & Lab | **CLCs:** 43 | **CE:** 64

COURSE DESCRIPTION

The Implementing and Operating Cisco Service Provider Network Core Technologies (SPCOR) v1.0 course teaches you how to configure, verify, troubleshoot, and optimize next-generation, Service Provider IP network infrastructures. It provides a deep dive into Service Provider technologies including core architecture, services, networking, automation, quality of services, security, and network assurance. This course also helps you prepare to take the 350-501 Implementing and Operating Cisco® Service Provider Network Core Technologies (SPCOR) exam, which is part of the new CCNP® Service Provider certification and the Cisco Certified Specialist – Service Provider Core certification.

This course will help you:

•Configure, verify, troubleshoot, and optimize nextgeneration, Service Provider IP network infrastructures
•Deepen your understanding of Service Provider technologies including core architecture, services, networking, automation, quality of services, security, and network assurance
•Prepare to take the 350-501 Implementing and Operating Cisco® Service Provider Network Core Technologies (SPCOR) exam.

WHO SHOULD ATTEND

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

PREREQUISITES

- Intermediate knowledge of Cisco IOS or IOS XE
- Familiarity with Cisco IOS or IOS XE and Cisco IOS XR Software configuration
- Knowledge of IPv4 and IPv6 TCP/IP networking
- Intermediate knowledge of IP routing protocols
- Understanding of MPLS technologies

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• Familiarity with VPN technologies

LEARNING OBJECTIVES

• Describe the Service Provider network architectures, concepts, and transport technologies
• Describe the Cisco Internetwork Operating System (Cisco IOS®) software architectures, main IOS types, and their differences
• Implement Open Shortest Path First (OSPF) in the Service Provider network
• Implement Integrated Intermediate System-to-Intermediate System (IS-IS) in the Service Provider network
• Implement Border Gateway Protocol (BGP) routing in Service Provider environments
• Implement route maps and routing policy language
• Describe IPv6 transition mechanisms used in the Service Provider networks
• Implement high-availability mechanisms in Cisco IOS XR software
• Implement traffic engineering in modern Service Provider networks for optimal resource utilization
• Describe segment routing and segment routing traffic engineering concepts
• Describe the VPN technologies used in the Service Provider environment
• Configure and verify Multiprotocol Label Switching (MPLS)
L2VPN in Service Provider environments
• Configure and verify MPLS L3VPN in Service Provider environments
• Implement IP multicast services
• Describe the Quality of Service (QoS) architecture and QoS benefits for SP networks
• Implement QoS in Service Provider environments
• Implement control plane security in Cisco devices
• Implement management plane security in Cisco devices
• Implement data plane security in Cisco devices
• Describe the Yet Another Next Generation (YANG) data modeling language
• Implement automation and assurance tools and protocols
• Describe the role of Cisco Network Services Orchestrator (NSO) in Service Provider environments
• Implement virtualization technologies in Service Provider environments

COURSE OUTLINE

1. Describing Service Provider Network Architectures
2. Describing Cisco IOS Software Architectures
3. Implementing OSPF
4. Implementing IS-IS
5. Implementing BGP
6. Implementing Route Maps and Routing Protocol for LLN [Low-Power and Lossy Networks] (RPL)
7. Transitioning to IPv6
8. Implementing High Availability in Networking
9. Implementing MPLS
10. Implementing Cisco MPLS Traffic Engineering
11. Describing Segment Routing
12. Describing VPN Services
13. Configuring L2VPN Services
14. Configuring L3VPN Services
15. Implementing Multicast
16. Describing QoS Architecture
17. Implementing QoS
18. Implementing Control Plane Security

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19. Implementing Management Plane Security
20. Implementing Data Plane Security
21. Introducing Network Programmability
22. Implementing Automation and Assurance
23. Introducing Cisco NSO
24. Implementing Virtualization in Service Provider Environments

DISCOVERY LABS

1. Deploy Cisco IOS XR and IOS XE Basic Device Configuration
2. Implement OSPF Routing
3. Implement Integrated IS-IS Routing
4. Implement Basic BGP Routing
5. Filter BGP Prefixes Using RPL
6. Implement MPLS in the Service Provider Core
7. Implement Cisco MPLS Traffic Engineering (TE)
8. Implement Segment Routing
9. Implement Ethernet over MPLS (EoMPLS)
10. Implement MPLS L3VPN
11. Implement BGP Security
12. Implement Remotely Triggered Black Hole (RTBH) Filtering

Instructor Led Training

To view the schedule and secure your site

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