

## **Implementing and Operating Cisco Service Provider Network Core Technologies (CPLL-SPCOR)**

Duration: 180 days

The Implementing and Operating Cisco Service Provider Network Core Technologies (SPCOR) training expands your knowledge and skills of service provider core networks. You will gain the theoretical and practical knowledge needed to implement and operate service provider networks using technologies such as core architecture, services, networking, automation, quality of service (QoS), security, and network assurance.

This training prepares you for the 350-501 SPCOR v1.0 exam. If passed, you earn the Cisco Certified Specialist – Service Provider Core certification and satisfy the core exam requirement for the Cisco Certified Network Professional (CCNP) Service Provider and Cisco Certified Internetwork Expert (CCIE) Service Provider certifications. This training also earns you 64 Continuing Education (CE) credits towards recertification.

### **Skills You'll Learn**

- Gain an understanding of network and software architectures, including core ethernet and multiprotocol label switching (MPLS) architectures
- Learn how to configure and troubleshoot MPLS and segment routing (SR) on Cisco IOS XE and Cisco IOS XR routers
- Implement control plane security, management plane security, and data plane security

### **Learning Path Objectives**

- Describe the service provider network architectures, concepts, and transport technologies
- Describe the Cisco IOS software architectures, main internetwork operating system (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 virtual private network (VPN) technologies used in the service provider environment
- Configure and verify multi-protocol label switching (MPLS) L2VPN in service provider environments
- Configure and verify MPLS L3VPN in service provider environments

- Implement IP multicast services
- Describe the QoS architecture and QoS benefits for service provider networks
- Implement QoS in service provider environment
- Implement control plane security in Cisco devices
- Implement management plane security in Cisco devices
- Implement data plane security in Cisco devices
- Describe the 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 environment

