



## Implementing Cisco Service Provider VPN Services

### What you'll learn in this course

The Implementing Cisco Service Provider VPN Services (SPVI) training prepares network professionals to implement and support Virtual Private Network (VPN) solutions on top of an MPLS network infrastructure. The goal is to prepare you to deploy, configure, monitor, operate, and troubleshoot end customer VPN environments built over a common Service Provider MPLS backbone. This training also includes labs to reinforce concepts including MPLS VPN fundamentals, benefits, classifications, components, control plane and data plane operations, VPN routing using Virtual Routing and Forwarding (VRF), Layer 3 MPLS VPNs, Layer 2 MPLS VPNs, IPv6 MPLS VPN implementations, IP Multicast VPNs, shared services VPNs, and solutions for deploying MPLS VPN traversing multiple service providers domains.

This training prepares you for the 300-515 SPVI v1.1 exam. If passed, you earn the Cisco Certified Specialist - Service Provider VPN Services Implementation certification and satisfy the concentration exam requirement for the Cisco Certified Network Professional (CCNP) Service Provider certification. This training also earns you 40 Continuing Education (CE) credits toward recertification.

### Course duration

- Instructor-led training: 5 days

## Who Should Attend

Network Administrators  
Network Engineers  
Network Supervisors  
Network Managers  
Network Operations Centre Personnel  
Network Designers  
Network Architects  
Channel Partners

### Objective

- Describe VPN concepts and operation in a service provider environment
- Implement Layer 3 MPLS VPN operations in a service provider environment
- Implement Layer 3 Inter-domain MPLS VPN services traversing multiple service providers
- Implement Layer 3 Multicast MPLS VPN operations in a service provider environment
- Troubleshoot typical issues in Layer 3 MPLS VPN environments
- Implement Layer 2 VPN operations in a service provider environment
- Troubleshoot Layer 2 VPN issues in a service provider network
- Implement MPLS VPN solutions for IPv6 environments
- Troubleshoot MPLS VPN solutions for IPv6 environments

### Outline

- Introducing VPN Services
- Troubleshooting MPLS VPN Underlay
- Implementing Layer 3 MPLS VPNs
- Implementing Layer 3 Interdomain MPLS VPNs
- Implementing Layer 3 Multicast MPLS VPNs
- Troubleshooting Intra-AS Layer 3 VPNs
- Implementing Layer 2 VPNs
- Troubleshooting Layer 2 VPNs
- Implementing Layer 3 IPv6 MPLS VPNs
- Troubleshooting Layer 3 IPv6 MPLS VPNs

### Prerequisites

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are found in the following Cisco Learning Offerings:

- Implementing and Administering Cisco Solutions (CCNA)
- Understanding Cisco Service Provider Network Foundations (SPFNDU)
- Implementing and Operating Cisco Service Provider Network Core Technologies (SPCOR)