

# Implementing Cisco Service Provider VPN Services (SPVI) 1.1

**Duration: 40 HRS**

## **Description**

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.

## **How You'll Benefit**

This training will help you:

- Gain valuable skills in reinforcing MPLS VPN fundamental concepts, benefits, and classifications
- Learn to configure optional paths for traffic to avoid network congestion
- Prepare for the 300-515 SPVI v1.1 exam
- Earn 40 CE credits toward recertification

## **Who Should Enroll**

- Network Administrators
- Network Engineers
- Network Supervisors
- Network Managers
- Network Operations Center (NOC) Personnel
- Network Designers
- Network Architects

## Course 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 \(SPCOR\)](#)

## Course 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

## Lab Outline

- Verify the Service Provider Backbone Operation for MPLS VPN
- Work with VRF Instances
- Troubleshoot the MPLS VPN Backbone
- Configure MP-BGP as the PE-CE Routing Protocol
- Configure and Verify PE-to-CE Routing Requirements
- Enable Shared Services VPN
- Deploy Internet Access as a VPN Service
- Implement Multicast VPN with mLDP
- Troubleshoot Layer 3 MPLS VPN End-Customer Connectivity



- Implement Different EVPN Solutions
- Troubleshoot EVPN VPWS
- Implement 6VPE

