Implementing Cisco Service Provider VPN Services (SPVI) v1.0

What you'll learn

The Implementing Cisco Service Provider VPN Services (SPVI) v1.0 training prepares you to manage end-customer Virtual Private Network (VPN) environments built over a common service provider Multiprotocol Label Switching (MPLS) backbone. You will complete hands-on labs to reinforce MPLS VPN fundamental concepts, benefits, and classification, MPLS components, MPLS control plane and data plane operations, MPLS VPN routing using Virtual Routing and Forwarding (VRF), Layer 2 and Layer 3 MPLS VPNs, IPv6 MPLS VPN implementations, IP Multicast VPNs, and shared services VPNs. The training also covers solutions for deploying MPLS VPN crossing multiple Service Provider domains that improve the use of network bandwidth.

This training prepares you for the 300-515 Implementing Cisco® Service Provider VPN Services (SPVI) exam. By passing this exam, you earn the Cisco Certified Specialist - Service Provider VPN Services Implementation certification, and you satisfy the concentration exam requirement for the CCNP® Service Provider certification. This training also earns you 40 Continuing Education (CE) credits towards recertification.

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 to take the 300-515 SPVI exam

What to expect in the exam

The 300-515 SPVI exam certifies your knowledge of implementing service provider VPN services including Layer 2, Layer 3, and IPv6. After you pass 300-515 SPVI, you earn the Cisco Certified Specialist - Service Provider VPN Services Implementation certification, and you satisfy the concentration exam requirement for the CCNP Service Provider certification.

Who should enroll

This training is for network professionals who need to learn the techniques to implement, configure, monitor, and support Service Provider VPN solutions based on MPLS backbones.

Network administrators

Network engineers

Network supervisors

Network managers

Network Operations Center (NOC) personnel

Network designers

Network architects

Channel partners

Technology areas

Service Provider

Training overview

Objectives

After taking this training, you should be able to:

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

Prerequisites

Before taking this training, you should have Service Provider knowledge at the professional level, equivalent to the material in the following Cisco trainings:

Building Cisco Service Provider Next-Generation Networks Part 1 (SPNGN1) v1.2

Building Cisco Service Provider Next-Generation Networks Part 2 (SPNGN2) v1.2

Deploying Cisco Service Provider Network Routing (SPROUTE)

In the new certification program, foundational material is covered in these trainings:

Implementing and Administering Cisco Solutions (CCNA®)

Understanding Cisco Service Provider Network Foundations (SPFNDU)

Implementing and Operating Cisco Service Provider Network Core Technologies (SPCOR)

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

Troubleshoot Layer 3 MPLS VPN End-Customer Connectivity

Implement Different EVPN Solutions

Troubleshoot EVPN VPWS

Implement IPv6 VPN Provider Edge Router (6VPE)