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

Course Acronym:	SPVI
Certification:	CCNP Service Provider
Course Length :	5 days

Course Content:

The Implementing Cisco Service Provider VPN Services (SPVI) course 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 course also covers solutions for deploying MPLS VPN crossing multiple Service Provider domains that improve the use of network bandwidth.

This course 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. course training also earns you 40 Continuing Education (CE) credits towards recertification.

Prerequisites

To fully benefit from this course, 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)
- Building Cisco Service Provider Next-Generation Networks Part 2 (SPNGN2)
- Deploying Cisco Service Provider Network Routing (SPROUTE)

This Cisco course is recommended to help you meet these prerequisites:

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

Target Audience:

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

Course Objectives:

After taking this course, 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

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

Labs 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)