

# Implementing Cisco Service Provider VPN Services (SPVI)

ID SPVI Price 4,995.— €(excl. tax) Duration 5 days

## Course Overview

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

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 attend

This course 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

## This course is part of the following Certifications

Cisco Certified Network Professional Service Provider (CCNP SERVICE PROVIDER)

## Prerequisites

Before taking this course, you should have Service Provider knowledge at the professional level.

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

- [Implementing and Administering Cisco Solutions \(CCNA\) v2.1](#)
- [Understanding Cisco Service Provider Network Foundations \(SPFNDU\)](#)
- [Implementing and Operating Cisco Service Provider Network Core Technologies \(SPCOR\)](#)

## Course Objectives

This course 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

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

## Detailed Course Outline

### Introducing VPN Services

- VPN Fundamentals
- MPLS VPN Control Plane Operation

### Troubleshooting MPLS VPN Underlay

- Troubleshoot Core Interior Gateway Protocol (IGP)
- Troubleshoot Border Gateway Protocol (BGP)

### Implementing Layer 3 MPLS VPNs

- Multiprotocol BGP (MP-BGP) Routing Requirements in MPLS VPNs
- Provider Edge to Customer Edge (PE-to-CE) Routing Requirements in Layer 3 MPLS VPNs

### Implementing Layer 3 Interdomain MPLS VPNs

- Inter-Autonomous System (AS) for Layer 3 MPLS VPNs
- Content Security and Control (CSC) for Layer 3 MPLS VPNs

### Implementing Layer 3 Multicast MPLS VPNs

- Multicast VPN (MVPN) Fundamentals
- Implement Intranet MVPN

### Troubleshooting Intra-AS Layer 3 VPNs

- Troubleshoot PE-CE Connectivity
- Troubleshoot PE-to-Route Reflector

### Implementing Layer 2 VPNs

- Layer 2 Service Architecture and Carrier Ethernet Services
- Refresh on Traditional Ethernet LAN (E-LAN), E-Line, and E-Tree Solutions

### Troubleshooting Layer 2 VPNs

- Troubleshoot Common Issues for Traditional E-Line, E-LAN, and E-Tree Ethernet Solutions
- Troubleshoot Common Issues for Ethernet VPN (EVPN) Native, EVPN Virtual Private Wire Service (VPWS), and EVPN Integrated Routing and Bridging (IRB) Solutions

### Implementing Layer 3 IPv6 MPLS VPNs

- Classical Solutions for Deploying IPv6 over IPv4 Environments
- Using 6VPE to Deploy IPv6 Connectivity over MPLS Environment

### Troubleshooting Layer 3 IPv6 MPLS VPNs

- Troubleshooting PE-to-PE Connectivity

# About Fast Lane



Fast Lane is a global, award-winning specialist in technology and business training as well as consulting services for digital transformation. As the only global partner of the three cloud hyperscalers- Microsoft, AWS and Google- and partner of 30 other leading IT vendors, Fast Lane offers qualification solutions and professional services that can be scaled as needed. More than 4,000 experienced Fast Lane professionals train and advise customers in organizations of all sizes in 90 countries worldwide in the areas of cloud, artificial intelligence, cyber security, software development, wireless and mobility, modern workplace, as well as management and leadership skills, IT and project management.

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- ✓ E-Learning
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- ✓ Mobile Learning

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### Germany

**Fast Lane Institute for Knowledge  
Transfer GmbH**  
Tel. +49 40 25334610  
[info@flane.de](mailto:info@flane.de) / [www.flane.de](http://www.flane.de)

### Austria

**ITLS GmbH**  
(Partner of Fast Lane)  
Tel. +43 1 6000 8800  
[info@itls.at](mailto:info@itls.at) / [www.itls.at](http://www.itls.at)

### Switzerland

**Fast Lane Institute for Knowledge  
Transfer (Switzerland) AG**  
Tel. +41 44 8325080  
[info@flane.ch](mailto:info@flane.ch) / [www.flane.ch](http://www.flane.ch)