

MPLS v2.3 - Implementing Cisco MPLS

Course Outline

Module 1: MPLS Features

- Lesson 1: Describing Basic MPLS Concepts
- Lesson 2: Describing MPLS Labels and Label Stack
- Lesson 3: Identifying MPLS Applications

Module 2: Label Assignment and Distribution

- Lesson 1: Discovering LDP Neighbors
- Lesson 2: Describing Typical Label Distribution in Frame-Mode MPLS
- Lesson 3: Describing Convergence in Frame-Mode MPLS

Module 3: Frame-Mode MPLS Implementation on Cisco IOS Platforms

- Lesson 1: Using Cisco Express Forwarding Switching
- Lesson 2: Configuring Frame-Mode MPLS on Cisco IOS Platforms
- Lesson 3: Monitoring Frame-Mode MPLS on Cisco IOS Platforms
- Lesson 4: Troubleshooting Frame-Mode MPLS on Cisco IOS Platforms

Module 4: MPLS Virtual Private Network Technology

- Lesson 1: Introducing Virtual Private Networks
- Lesson 2: Introducing MPLS VPN Architecture
- Lesson 3: Introducing the MPLS VPN Routing Model
- Lesson 4: Forwarding MPLS VPN Packets

Module 5: MPLS VPN Implementation

- Lesson 1: Using MPLS VPN Mechanisms of Cisco IOS Platforms
- Lesson 2: Configuring VRF Tables
- Lesson 3: Configuring an MP-BGP Session Between PE Routers
- Lesson 4: Configuring Small-Scale Routing Protocols Between PE and CE Routers
- Lesson 5: Monitoring MPLS VPN Operations
- Lesson 6: Configuring OSPF as the Routing Protocol Between PE and CE Routers
- Lesson 7: Configuring BGP as the Routing Protocol Between PE and CE Routers
- Lesson 8: Troubleshooting MPLS VPNs

Module 6: Complex MPLS VPNs

- Lesson 1: Introducing Overlapping VPNs
- Lesson 2: Introducing Central Services VPNs
- Lesson 3: Using Advanced VRF Import and Export Features
- Lesson 4: Introducing the Managed CE Routers Service

Module 7: Internet Access and MPLS VPNs

Lesson 1: Combining Internet Access with MPLS VPNs

Lesson 2: Implementing Separate Internet Access and VPN Services

Lesson 3: Implementing Internet Access as a Separate VPN

Module 8: MPLS Traffic Engineering Overview

Lesson 1: Introducing Traffic Engineering Concepts

Lesson 2: Understanding MPLS TE Components

Lesson 3: Configuring MPLS Traffic Engineering on Cisco IOS Platforms

Lesson 4: Monitoring Basic MPLS TE on Cisco IOS Platforms

Lab Outline

Lab 2-1: Establishing the Service Provider IGP Routing Environment

Lab 3-1: Establishing the Core MPLS Environment

Lab 5-1: Configuring Initial MPLS VPN Setup

Lab 5-2: Running EIGRP Between PE and CE Routers

Lab 5-3: Running OSPF Between PE and CE Routers

Lab 5-4: Running BGP Between PE and CE Routers

Lab 6-1: Establishing Overlapping VPNs

Lab 6-2: Merging Service Providers

Lab 6-3: Establishing a Common Services VPN

Lab 7-1: Establishing Central Site Internet Connectivity with an MPLS VPN

Lab 8-1: Implementing Basic MPLS TE