
Implementing Cisco MPLS (CI-MPLS)

Temario

Learn to deploy MPLS and MPLS VPN infrastructures.

This course is designed to introduce you to MPLS concepts, installation, migration, operation, inspection, and troubleshooting. You'll start with an overview of MPLS and MPLS operation, after which you'll concentrate on MPLS Virtual Private Network (VPN) deployment. The MPLS fundamentals covered in this class will provide the theory and hands-on knowledge to implement, integrate, and deploy an MPLS infrastructure. The MPLS VPN lecture and labs will cover the models, diversity, implementation, troubleshooting, and flexibility of MPLS VPNs.

Prerequisites

Cursos o Conocimiento Equivalente en:
CCNA Certification Fast Track Programme (CCNABC)
Implementing Cisco IP Routing v1.0 (ROUTE)
Configuring BGP on Cisco Routers (BGP)

Dirigido a

Anyone responsible for designing, implementing, and/or troubleshooting MPLS networks or solutions based on MPLS technology

Objetivos del curso

Label and Tag Distribution Protocol
MPLS VPNs/VPN deployment models
Multi-protocol BGP
MPLS VPN configurations, integration, and management

Contenido

- 1. MPLS Concepts
 - MPLS Labels and Label Stack
 - MPLS Applications
- 2. MPLS Label Assignment and Distribution
 - Discovering LDP Neighbors
 - Label Distribution in Frame-Mode MPLS
 - Convergence in Frame-Mode MPLS
 - MPLS Label Allocation, Distribution, and Retention Modes
- 3. Frame-Mode MPLS Implementation on Cisco IOS Platforms
 - CEF Switching
 - Configuring Frame-Mode MPLS
 - Monitoring Frame-Mode MPLS
 - Troubleshooting Frame-Mode MPLS
- 4. MPLS Virtual Private Network (VPN) Technology
 - VPN Categorization
 - MPLS VPN Architecture
 - MPLS VPN Routing Model
 - MPLS VPN Packet Forwarding
- 5. MPLS VPN Implementation
 - MPLS VPN Mechanisms
 - Configuring VRF Tables
 - Configuring an MP-BGP Session Between PE Routers
 - Configuring Routing Protocols Between PE and CE Routers
 - RIP
 - EIGRP
 - OSPF
 - BGP
 - Monitoring MPLS VPN Operation
 - Troubleshooting MPLS VPN

- 6. Complex MPLS VPNs
 - Advanced VRF Import/Export Features
 - Overlapping VPNs
 - Central Services VPNs
 - Managed CE Router Service
 - MPLS Managed Services
- 7. Integrated Internet Access with MPLS VPNs
 - VPN Internet Access Topologies
 - VPN Internet Access Implementation Methods
 - Separating Internet Access from VPN Services
 - Internet Access Backbone as a Separate VPN
- 8. MPLS Traffic Engineering
 - Traffic Engineering (TE) Concepts
 - MPLS TE Components
 - Configuring MPLS TE on Cisco IOS Platforms
 - Monitoring Basic MPLS TE on Cisco IOS