

MPLS-642-611

### **MPLS Fundamentals**

- Explain basic core MPLS technology and concepts
- Explain the function of MPLS Labels and Label Stack
- Identify MPLS Applications

### **MPLS Operation**

- Describe the characteristics and behaviors of Label Distribution in Frame-mode MPLS
- Explain Convergence in Frame-mode MPLS
- Describe the characteristics and behaviors of Label Distribution over LC-ATM Interfaces and VC Merge
- Describe the features of MPLS Label Allocation, Distribution, and Retention Modes
- Explain the process of LDP Neighbor Discovery

### **Frame-Mode/Cell-Mode MPLS Implementation, Configuration and Troubleshooting**

- Identify the functions of CEF Switching
- Explain and configure Frame-mode MPLS on Cisco IOS platforms
- Monitor MPLS on Cisco IOS platforms - Frame-mode interfaces
- Troubleshoot Frame-Mode MPLS configurations on Cisco IOS Platforms
- Explain and configure Label-Controlled ATM MPLS
- Explain and configure LC-ATM MPLS over ATM Virtual Path
- Monitor LC-ATM MPLS on Cisco IOS platforms

### **MPLS Virtual Private Networks Technology**

- Describe the characteristics and functions of Virtual Private Networks
- Describe Overlay and Peer-to-Peer VPNs
- Explain Major VPN Categorization
- Describe MPLS VPN Architecture
- Describe the MPLS VPN Routing Model
- Explain the process of MPLS VPN Packet Forwarding

### **MPLS VPN Implementation, Configuration and Troubleshooting**

- Explain MPLS VPN Mechanisms supported on Cisco Platforms
- Configure VRF tables
- Configure MP-BGP Session between PE routers
- Configure Small Scale Routing Protocols
- Monitor MPLS VPN Operation
- Configure OSPF as the Routing Protocol
- Configure BGP as the Routing Protocol
- Troubleshoot basic MPLS VPN configuration errors

## Complex MPLS VPNs

- Describe the advanced VRF Import/Export Features
- Explain the characteristics of Overlapping VPNs
- Explain the features of Central Services VPNs
- Describe Managed CE Router Service

## Internet Access from a MPLS VPN

- Explain VPN Internet Access Topologies
- Describe VPN Internet Access Implementation Methods
- Describe the methods to Separate Internet Access from VPN Service
- Internet Access Backbone as a Separate VPN

