

## Advanced Services' Advanced Implementing and Troubleshooting MPLS VPN Networks (AMPLS) v4

### Length: 5-day Workshop

Advanced Implementing and Troubleshooting MPLS VPNs is a comprehensive five-day hands-on course that enables you to develop the skills to successfully deploy a complex Multiprotocol Label Switching Virtual Private Network (MPLS VPN) installation and various service overlays. You explore the intricacies of the benefits of an MPLS VPN solution, including intranet, extranet and inter-autonomous system (inter-AS) MPLS VPNs, Multicast VPNs, Quality of Service (QoS) within an MPLS VPN, and Multi-VRF and the best practices for implementing them. In-depth hands-on labs help ensure that you learn the practical skills as well as the theory.

AMPLS is offered in a traditional classroom or as an interactive online training delivered over Cisco WebEx™ conferencing. Both versions are led by the same knowledgeable instructors. The course materials are the same (although minor changes are made to accommodate the online environment), and both versions have the same hands-on labs. AMPLS Online offers the same learning experience as the traditional version with the added benefit of remote access.

### You will learn to:

Upon completion of this course, you should be able to:

- Identify the components of the MPLS control and forwarding planes
- Troubleshoot an MPLS network using MPLS Operations, Administration and Maintenance (MPLS OAM) tools and features
- Implement and verify advanced Label Distribution Protocol (LDP) control plane features
- Implement and verify intranet and extranet MPLS VPNs to extend a customer network to multiple sites
- Troubleshoot an MPLS VPN
- Scale MPLS VPNs to allow for additional capacity within an MPLS VPN network
- Implement inter-AS VPNs to extend a customer VPN across multiple service providers
- Implement QoS within an MPLS VPN network
- Implement multicast service within an MPLS VPN
- Implement Multi-VRF (vrf-lite) to extend an MPLS VPN to a customer site
- Implement Internet access within an MPLS VPN

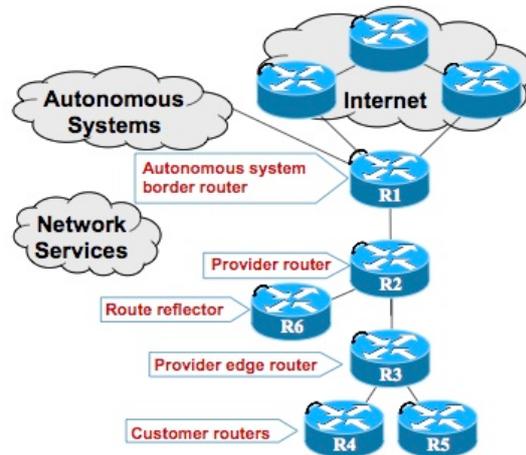
### Recommended for:

This course is intended for network professionals, including designers, implementers, and support staff, who are involved with deploying large-scale networks for large enterprises or the design and deployment of high-end networks requiring MPLS VPNs.

### Prerequisites:

Following are the prerequisites for this course.

- Ability to efficiently use Cisco IOS® Software to perform Cisco® router configuration
- Considerable knowledge in routed networks, including network protocols and IP subnets



- Ability to configure and troubleshoot Open Shortest Path First (OSPF) or Intermediate System-to-Intermediate System (IS-IS) routing protocols in a large-scale network
- Ability to configure and troubleshoot Border Gateway Protocol (BGP) routing
- Ability to configure and verify basic MPLS functionality
- Ability to configure QoS policies using Modular QoS (MQC)
- Ability to configure and verify basic IP multicast routing