Learning Services
Cisco Training on Demand
Advanced Implementing and Troubleshooting MPLS VPN Networks (AMPLS)

Overview
Advanced Implementing and Troubleshooting MPLS VPNs - Cisco Training on Demand is a comprehensive course that enables you to develop the skills to successfully deploy a complex MPLS VPN installation and various service overlays. Reinforcing the lecture materials, hands-on labs ensure you have the working skills to successfully affect the networks you support.

This Cisco Training on Demand self-study format features the same content and labs as the live classroom and virtual classroom versions of the AMPLS course with high-definition video and remote, scheduled hands-on lab exercises.

With the Advanced Implementing and Troubleshooting MPLS VPNs - Cisco Training on Demand, you will 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 Cisco Training on Demand is a blended hybrid of video, interactivity and lab exercises. Trainings are led by the same knowledgeable instructors as the classroom and virtual formats. The course slides are the same as the classroom version and feature the same hands-on labs. Presentations are recorded in high definition, with controls and provide the student materials in a self-paced format.

Interested in purchasing this course in volume at discounts for your company? Please contact Cisco Training on Demand-sales@cisco.com.
Duration:
The AMPLS Cisco Training on Demand is comprised of 9 modules and 20 lessons totaling nearly 9 hours of video, along with 12 hands-on lab exercises.

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

Objectives
After 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

Course Prerequisites
The knowledge and skills necessary before attending this course are:

- Basic knowledge of MPLS similar to what is covered in the Building Core Networks with OSPF, BGP and MPLS bootcamp.

Course Outline
- Module 1: MPLS Implementation
- Module 2: MPLS VPN Intra-AS
- Module 3: MPLS VPN Troubleshooting
- Module 4: MPLS VPN Scaling and Convergence
- Module 5: MPLS VPN Inter-AS
- Module 6: MPLS VPN Quality of Service
- Module 7: MPLS VPN Multicast
- Module 8: MPLS VPN Multi-VRF
- Module 9: MPLS VPN Internet Access
- Module 10: Labs
Labs Outline

This course contains 12 hands-on virtual lab exercises, powered by Cisco Learning Labs and Cisco IOL (IOS on Linux).

Topology for all labs in the course:

Each lab is numbered according to the course Module it appears in:

- Lab 1-1: Troubleshoot MPLS
- Lab 1-2: Configure Advanced LDP Features
- Lab 2-1: Configure Intranet MPLS VPNs
- Lab 2-2: Configure Extranet MPLS VPNs
- Lab 2-3: Implement VPNV4 Route Reflectors
- Lab 2-4: Implement INTER-AS MPLS VPNs Using MP-EBGP for VPNV4
- Lab 2-5: Implement Inter-AS MPLS VPNs Using BGP IPv4+ Label with Route Reflector
- Lab 2-6: Implement Inter-AS MPLS VPNs to Multiple Autonomous Systems
- Lab 3-1: Implement QOS in an MPLS VPN
- Lab 3-2: Implement Multicast VPN
- Lab 4-1: Implement Multi-VRF CE
- Lab 4-2: Internet Access within an MPLS VPN
Instructor: Glenn Sisson

Glenn is a long-term Education Specialist for Cisco Systems, has taught dozens of different courses over the years to some of Cisco's key customers. We are pleased to bring Glenn's expertise online in this Cisco Training on Demand.

Supported Configurations

Cisco Training on Demand videos are supported on PCs, Macs, and tablets using one of the following browsers, or later: Mozilla Firefox 30, Google Chrome 35, and Apple Safari 6. The labs are supported on a PC or Mac and not on tablets.