

IP VIRTUAL PRIVATE NETWORKS AND MPLS

Applied Learning Solutions' Virtual IP Networks and MPLS is a very special knowledge transfer experience that can be presented either in a traditional lecture format for an audience (comprised of representatives of multiple carrier and/or service provider personnel) or as a highly interactive workshop focused on the needs of a single carrier or service provider. This course can be an important part of the planning and decision making process before the actual MPLS service has been designed and the network has been architected or after network build-out has begun and initial design problems have been encountered. This is truly a knowledge transfer program designed for the practitioner.

Audience:

This course is designed for senior engineers, network architects and planners.

Objectives:

At the conclusion of this course the student will be able to:

- Explain the benefits of using MPLS/gMPLS
- Design and implement MPLS-based services
- Describe the in-depth workings of MPLS
- Optimize network performance using MPLS
- Explain the latest advancements in MPLS technology and services

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COURSE OUTLINE

Day 1

1. Introduction

- Switching vs Routing
- Switching and Routing
- MPLS: The Best of Both Worlds

2. MPLS Concepts

- Labels
- Label Swapping
- Label Switch Routers
- Label Switched Paths (LSPs)
- Label Switched Path Binding
- Label Stacking
- Multicast
- Label Distribution Protocol (LDP)

3. Signaling and Routing in MPLS

- Constraint-Based Routing Label Distribution Protocol
- Resource Reservation Protocol (RSVP) in MPLS

Day 1 Review

Day 2

4. Quality of Service (QoS) in MPLS Networks

- MPLS and QoS
- MPLS and Differentiated Services (DiffServ)
- MPLS and Integrated Services (IntServ)

5. Generalized MPLS (GMPLS)

- Generalized MPLS in Optical Networking
- Link Management Protocol (LMP)
- OSPF and RSVP Modifications for GMPLS

6. MPLS Network Example

7. Conclusion: MPLS Review and Q&A