

Course ID

MPLS1D

Course Duration

1 day

Course Title

MPLS: A Short Tutorial

Related Courses

- MPLS: Integrated Routing with End-to-End QoS for the Next Generation Networks (2-3 days, MPLS)
- Multimedia Applications: IMS, SIP, and VoIP (2 days, MULTIMEDIA)
- IP-Based Systems: TCP/IP and Mobile IP (2-3 days, IPSYS)
- IMS: The Technology, Applications, and Challenges (2 days, IMS)
- Internetworking with TCP/IP Version 6 (2-3 days, IPV6)
- State-of-the-art of VoIP Technology for Professionals, Managers, and Executives (1 day, VOIP-EXEC)
- VoIP Security (2 days, VOIPSEC)
- Principles of Network Security: CompTIA Security+ and US DoD Directive 8570.1 (3-4 days, NETSEC)
- ATM: A Survival Course (3 days, ATM)
- Wireless Network Structure, Operation, and Technologies (3 days, WIRELESSNET)

Aimed At

Those with some technical background and familiarity with data networking concepts who wish to acquire a broad overview of MPLS's capabilities. This course is suitable for managers and less technical professionals who need a high-level overview of MPLS.

Group Size

5-25

Prerequisites

You should have some prior familiarity with data networking concepts and IP.

Course in a Nutshell

This course provides a high-level overview of Multi Protocol Label Switching (MPLS), a central element of next generation networks. MPLS offers an IP-compatible, QoS-capable infrastructure that makes possible the convergence of voice, IP, ATM, Ethernet, and Frame Relay onto the same backbone network. MPLS provides the ability to combine the intelligence and scalability of routing with the reliability and manageability of traditional carrier networks. MPLS is the key to scalable virtual private networks (VPNs) and end-to-end quality of service (QoS).

Customize It!

We will be pleased to customize this course to your specific needs, usually at little-to-no additional cost, by adding or omitting topics included, increasing or decreasing the level of detail, or making other changes as requested. Those who need a detailed technical treatment of the subject should consider our longer MPLS course listed under Related Courses.

- Summarize the developments that led to MPLS
- Explain the underlying concepts of MPLS
- List the benefits of MPLS
- Describe the basic architecture of MPLS
- Describe the operation of MPLS
- Describe the major MPLS services

Course Outline

- Fundamentals of MPLS
 - Pre-MPLS protocols
 - Evolution of MPLS
 - Basic concepts and definition of MPLS
- Benefits of MPLS
 - The use of One Unified Network Infrastructure
 - Better IP over ATM integration
 - BGP free core
 - Peer-to-Peer VPN model versus Overlay VPN Model
 - Optimal traffic flow
- Basics of MPLS Architecture and Operation
 - Introducing MPLS labels
 - MPLS and OSI reference model
 - MPLS nodes
 - Label Edge Router (LER)
 - Label Switch Router (LSR)
 - Customer Edge (CE)
 - Customer (C)
 - Label Switched Path (LSP)
 - MPLS operation
- Overview of MPLS Services
 - MPLS VPN
 - VPLS
 - Pseudowire
 - ATM
 - TDM
 - Frame Relay
- Deploying MPLS: Migration and Implementation Issues
- Conclusion: Recap, Q/A, and Evaluation

How You Will Learn

- You will learn from someone who is knowledgeable and experienced in MPLS and related technologies.
- We will conduct this class as an interactive lecture, with plenty of opportunity for participation and discussion of issues of interest to you.
- If you already know something data networks, we will build on that. If your background is less technical, we will review the necessary background material before proceeding with the class, using examples and analogies to simplify the complex topics.
- You will receive a copy of the instructor presentation for review and reference after the class.

Revised

June 4, 2007