



**FREE**

For pre-registered members of the MPLS & Frame Relay Alliance and ATM Forum  
Non-members: \$150 for one seminar & \$200 for both\*

## The MPLS & Frame Relay Alliance Presents Two Half Day Tutorials on:

**Migrating Legacy Services to MPLS (9am-12:30pm)  
&  
MPLS VPN (1:30pm-5pm)**

All attendees will receive a CD containing session material

Receive an in-depth, vendor-neutral review of :

### **Migrating Legacy Services to MPLS**

- Key Needs, Options, and why MPLS
- MPLS Overview
- Migrating Frame Relay/ATM to MPLS network
- Migrating TDM and Voice to MPLS network

### **MPLS VPN's**

- Introduction to Virtual Private Networks
- Layer 3 MPLS VPNs (RFC 2547-bis)
- Layer 2 MPLS VPNs (VPWS and VPLS)
- Introduction to Multi-Service Interworking
- Carrier Migration Examples

## Wednesday, October 15<sup>th</sup>

Hilton London Olympia  
380 Kensington High Street  
London England, W14 8NL

\* Continental Breakfast for attendees of morning session; Lunch provided for attendees of both sessions.

Register online at [http://mplsforum.org/events/seminar\\_reg.shtml](http://mplsforum.org/events/seminar_reg.shtml) or contact Mike Parket / MPLS & Frame Relay Alliance Coordinator

39355 California Street, Suite 307, Fremont, CA 94538 US / <http://www.mplsforum.org>  
mparket@mplsforum.org / Phone +1.510.744.4003 / Fax +1.510.608.5917

# Migrating Legacy Services to MPLS

Wednesday, October 15, 2003  
9am – 12:30pm

## The MPLS & Frame Relay Alliance Presents a Half-Day Seminar on Migrating Legacy Services to MPLS

MPLS enables carriers to construct scalable, reliable, and SLA sensitive networks. The Migration to MPLS half-day tutorial will provide attendees with insight into the business and technical strategies that are being discussed that allow carriers to migrate existing services to an MPLS infrastructure while preserving today's valuable revenue sources – ATM, Frame Relay, Voice and TDM. Key existing and emerging industry standards/agreements are referenced.

A basic understanding of MPLS and Traffic Engineering is strongly recommended as a foundation for this seminar.

## Migrating Legacy Services to MPLS Seminar - 9:00am-12:30pm

### Welcome and Introduction to the MPLS & Frame Relay Alliance

### Section 1: Strategy Overview

- Today's Networks
- Key Requirements & Challenges
- Existing Networks Limitations
- Alternative Solution Architectures
- Why MPLS

### Section 2: MPLS Overview

- MPLS Network Solution Overview
- Topology Determination
- Traffic Engineering
- Label Distribution
- E-LSPs and L-LSPs
- Differentiated Services – Diffserv
- Dealing with Contention
- Network Resiliency
- References

### Section 3: Migrating Frame Relay and ATM to MPLS

- Current Frame Relay/ATM Network Solution
- Key Attributes to Preserve
- Motivations
- Key Migration Alternatives & Benefits
- Integration Strategy
- Frame Relay-MPLS Solution
- Control Plane - ATM/FR-MPLS Solution Alternatives

### Section 3: *continued*

- Data Plane - ATM/FR-MPLS Solution Alternatives
- Solution Scalability
- Solution Resiliency
- Management Plane - ATM/FR-MPLS Solution
- Service Level Agreements (SLAs)
- Summary

### Section 4: Migrating TDM and Voice to MPLS

- TDM Migration to MPLS Overview
  - Current Solution and Characteristics to Preserve
  - Why MPLS
  - TDM over MPLS Solution
  - Delay and Jitter
- Voice Migration to MPLS Overview
  - Current Solutions and Characteristics to Preserve
  - Voice over IP Solution
  - Voice over MPLS Solution
- Summary

### Tutorial Summary

The MPLS & Frame Relay Alliance, whose mission is to drive multi-vendor deployment of MPLS and Frame Relay networks, gladly presents these seminars as part of our commitment to developing and facilitating MPLS & Frame Relay educational programs. These seminars will be facilitated by leading technology experts from the member companies

## The MPLS & Frame Relay Alliance Presents a Half-Day Seminar on MPLS VPN

The half-day MPLS Virtual Private Network (VPN) Tutorial discusses MPLS Layer 2 VPN models, the MPLS Layer 3 RFC2547-bis model, and briefly highlights the Virtual Router (VR) model. The tutorial describes and contrasts MPLS VPNs to other types of VPNs in use today. The Layer 2 material gives an overview of the different encapsulation drafts available and the ongoing work in the IETF, ITU, and the MPLS, ATM, and Frame Relay Forums. We briefly highlight the new Ethernet Virtual Private LAN Segment (VPLS) work for Ethernet Transparent LAN Services (TLS). The Layer 3 material describes the reference models for MPLS RFC2547 VPNs and details the set-up and operation of Layer 3 MPLS VPNs.

A basic understanding of MPLS and Traffic Engineering is strongly recommended as a foundation for this seminar.

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## MPLS VPN Seminar

1:30pm – 5:00pm

### Section 1: Introduction to Virtual Private Networks (VPNs)

- Why use MPLS
- MPLS FR Alliance and IETF work areas
- Virtual Private Network Definition
- Layer 2 VPNS (VPWS and VPLS)
- Layer 3 VPNS (RFC 2547-bis)

### Section 2: Layer 3 MPLS VPNS

- BGP Review
- RFC 2547bis Key Characteristics
- BGP / MPLS VPN Architecture Overview
- VPN Routing and Forwarding (VRF) Tables
- Overlapping VPNS
- VPN Route Distribution
- VPN Route Distinguisher
- VPN Packet Forwarding

### Break

### Section 3: Layer 2 MPLS VPNS

- Layer 2 VPN Market Drivers
- IETF PWE3 and L2VPN WG update
- Encapsulation and Label Stacking
- Virtual Private Wire Services – VPWS
- Pt-to-pt Ethernet
- Pt-to-pt ATM
- Pt-to-pt Frame Relay
- Virtual Private LAN Services – VPLS

### Section 4: Introduction to Multi-Service Interworking

- Carrier challenges at the edge
- Legacy services business model and growth
- Interworking History and Definition
- Network and Service Interworking
- FRF.5 and FRF.8.1 Review
- Introduction to MPLS FR Alliance Multi-Service
- Interworking Baseline Work Actions

### Section 5: Carrier Migration Examples

- Existing FR and ATM Networks
- Migrating to an IP/MPLS core
- Migrating Legacy Services
- Introducing New Services
- Complete Multi-Service MPLS Solution

The MPLS and Frame Relay Alliance, whose mission is to drive the multi-vendor deployment of MPLS and Frame Relay technologies, gladly presents these seminars as part of our commitment to developing and facilitating educational programs. These seminars will be facilitated by leading technology experts from the member companies

## About the MPLS & Frame Relay Alliance

The MPLS and Frame Relay Alliance is an industry-wide association of networking and telecommunication companies focused on advancing the deployment of multi-vendor multi-service label switching networks and associated applications. The Forum provides a meeting ground for companies that are creating MPLS and FR products and deploying MPLS and FR networks and services.

For more information about the MPLS & Frame Relay Alliance, please contact Alexa Morris, MPLS & Frame Relay Alliance Executive Director, at +1.510.608.5914 or via email at amorris@mplsforum.org. Additional information is available online at <http://www.mplsforum.org>.

## Who can join?

The MPLS & Frame Relay Alliance is open to any organization, individual or government agency dedicated to the advancement of the Internet and IP networks in general through the adoption of MPLS & Frame Relay technology.



### MPLS & Frame Relay Alliance

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## How to Register

Register online at: [http://mplsforum.org/events/seminar\\_reg.shtml](http://mplsforum.org/events/seminar_reg.shtml) or complete the following form and fax to +1.510.608.5917.

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 Title \_\_\_\_\_  
 Company \_\_\_\_\_  
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 Email \_\_\_\_\_ URL \_\_\_\_\_

Cost:

### Registration

MPLS & Frame Relay Alliance and ATM Forum Members:

**FREE if registered by 10/10/03**

Non-members: \$150.00 USD for one seminar and \$200.00 USD for both (payment must be received by 10/10/03)

### On-site Registration

MPLS & Frame Relay Alliance and ATM Forum members: \$100.00 USD for one seminar and \$150.00 USD for both.

Non-Members: \$250.00 USD for one seminar and \$300.00 USD for both.

### Payment Methods:

No cash accepted

If you wish to pay by company check, payment must arrive no later than October 10, 2003. Make checks payable to: "MPLS & Frame Relay Alliance" and mail to:

Attn: Mike Parket  
MPLS & Frame Relay Alliance  
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Fremont, CA 94538  
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*No refunds if you cancel. Space is limited and seats will be filled on a "first come, first served" basis.*