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## Implementing Cisco MPLS Traffic Engineering & Other Features

**Duration: 4 Days**    **Course Code: MPLST**

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### Overview:

This five-day course will enable customers to gather information from the technology basics to some of the more updated features and functions such as Traffic Engineering, Carrier Supporting Carrier and Any Transport over MPLS (AToM). The focus of the course is on technology issues of MPLS from the Service Providers perspective and how to configure some of those features and functions in an existing routed environment.

Customised training is available to emphasize the specific requirements of the customer's network and business demands. The course is delivered in a balance of lectures, hands-on labs, and white board discussions

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### Target Audience:

The Implementing Cisco MPLS Traffic Engineering and Other Features (MPLST) course is recommended training for individuals seeking advanced MPLS based knowledge and skills.

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### Objectives:

- Identify MPLS's peer-to-peer architecture and explain label allocation, routing update distribution and packet forwarding model in this architecture
  - Configure, monitor, and troubleshoot service provider support using the MPLS Carrier supporting Carrier service. Identify the MPLS Traffic Engineering architecture and explain how MPLS implements traffic engineering, establishes the constraint-based path and assigning traffic to traffic trunks
  - Configure, monitor, and troubleshoot MPLS Traffic Engineering.
  - Implement a defined SLA using the MPLS QoS services
  - Configure, monitor, and troubleshoot layer-2 services using the Any Transport over MPLS service. Configure, monitor, and troubleshoot IPv6 support in a MPLS environment.
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### Prerequisites:

Delegates are required to meet the following prerequisites:

- CCNA or equivalent knowledge
  - BSCI - Building Scaleable Cisco Internetworks course
  - BGP - Configuring BGP on Cisco Routers Course
  - QoS – Implementing Cisco Quality of Service
  - MPLS – Implementing MPLS
- or have equivalent knowledge.

Practical experience with deploying and operating networks based on Cisco IOS and network devices is strongly recommended

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## Content:

### MPLS VPN Review MPLS Label Assignment and Distribution Frame-Mode/Cell-Mode

- Populating the LFIB with MPLS labels
- Packet propagation across an MPLS network and PHP
- Configuring MPLS VPN's
- The use of Route Distinguishers and Route Targets.

### Carrier Supporting Carrier (CsC)

- Benefits of CSC
- How CSC works
- CSC Models: Native IP, MPLS and LDP, MPLS and EBGp, MPLS VPN's

### MPLS Traffic Engineering Technology

- What is Traffic Engineering
- Business drivers for Traffic Engineering
- Traffic tunnels: Concepts, Characteristics and Attributes
- Constraint based Path Computation
- Role of RSVP
- Implementing TE policies
- Propagating TE link attributes with Link-State Routing
- Path setup and maintenance
- Traffic Flow modifications and autorouteConfiguring MPLS Traffic Engineering
- MPLS TE on the interface
- MPLS-TE support in OSPF and IS-IS
- Explicit and dynamic path options
- Link protection
- Bandwidth control

### MPLS Quality of Service

- QoS models
- MPLS support for DiffServ
- Configuring QoS in Cisco IOS modular QoS CLI
- QoS implementationAny Transport over MPLS (AToM)
- How AtoM works
- AtoM configuration

### MPLS IPv6 support

- Implementing Ipv6 over MPLS
- Benefits of deploying Ipv6 over MPLS backbones
- Cisco 6PE

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## Further Information:

For More information, or to book your course, please call us on 353-1-814 8200

[info@globalknowledge.ie](mailto:info@globalknowledge.ie)

[www.globalknowledge.ie](http://www.globalknowledge.ie)

Global Knowledge, 3rd Floor Jarvis House, Millennium Walkway, Dublin 1