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**Multiprotocol Label Switching (MPLS)
TRAINING COURSE**

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MODULE 1: INTRODUCTION TO MPLS

- a) Direction of IP network in the industry today
- b) Label switching vs IP Routing
- c) Benefits of MPLS
- d) Basic MPLS Core Architecture

MODULE 2: ROUTING PROTOCOLS

- a) Overview of Routing Protocols
- b) Interior Gateway Protocols
 - a. RIP
 - b. OSPF
 - c. EIGRP
- c) Exterior Gateway Protocols
 - a. BGP
- d) Routing Hands on Lab

MODULE 3: MPLS THEORY

- a) Components of an MPLS Network
- b) MPLS Tag format
- c) Label distribution
- d) MPLS Operation

MODULE 4: MPLS CORE LABORATORY

- a) Configure MPLS P routers and trace packets through the label switched network
- b) Troubleshooting techniques

MODULE 5: MPLS TRAFFIC ENGINEERING

- a) Forwarding Equivalence Classes (FEC)
- b) Relationship between label distribution and FECs
- c) CR-LDP and RSVP-RE Overview
- d) Constrained Shortest Path First (CSPF)
- e) RSVP-TE Fast Reroute

MODULE 6: MPLS BGP VPN THEORY

- a) Overview
- b) MPLS VPN Components
- c) MPLS VPN deployment overview
- d) Restricted Topology
- e) MPLS VPN route propagation
 - a. Multiprotocol BGP (MP-iBGP_
- f) MPLS VPN addressing
- g) Troubleshooting Techniques

MODULE 7: VIRTUAL PRIVATE LAN SERVICE

- a) MPLS Layer 2 Services
 - a. Point to Point
 - b. Point to Multipoint
- b) VPLS Overview
- c) VPLS Operation

MODULE 8: DEMONSTRATION AND PRACTICAL SESSION