New trends in ISP - MPLS, SDWAN and Firewall Integration

Duration 5 days

1. MPLS Concepts

- MPLS Labels and Label Stack
- MPLS Applications

2. MPLS Label Assignment and Distribution

- Discovering LDP Neighbors
- Label Distribution in Frame-Mode MPLS
- Convergence in Frame-Mode MPLS
- MPLS Label Allocation, Distribution, and Retention Modes

3. Frame-Mode MPLS Implementation on Cisco IOS Platforms

- CEF Switching
- Configuring Frame-Mode MPLS
- Monitoring Frame-Mode MPLS
- Troubleshooting Frame-Mode MPLS

4. MPLS Virtual Private Network (VPN) Technology

- VPN Categorization
- MPLS VPN Architecture
- MPLS VPN Routing Model
- MPLS VPN Packet Forwarding

5. MPLS VPN Implementation

- MPLS VPN Mechanisms
- Configuring VRF Tables
- Configuring an MP-BGP Session Between PE Routers
- Configuring Routing Protocols Between PE and CE Routers
    - EIGRP
    - OSPF
    - BGP
- Monitoring MPLS VPN Operation
- Troubleshooting MPLS VPN

6. International Private Leased Circuit Definition (No hands-on)

- What is IPLC?
- IPLC Features
- IPLC Benefits
- How Does International Private Leased Circuit (IPLC) Work?

7. Firewall Integration with Router

8. Cyber Security

- Describe the basic concepts and uses of cryptography.
- Managed DDoS
- Phishing Attack solutions

9. SD-WAN (Different Vendor Solutions)

- Introduction to SD-WAN
- Traditional WAN vs. SD-WAN
- SD-WAN Architecture and Components
- SD-WAN Key Concepts and Functionality
- Vendor Landscape and Solution Comparison
- Leading SD-WAN Vendors Overview
- Introduction to major SD-WAN vendors (e.g., Cisco, Viptela, Versa Networks, Fortinet)
- Brief overview of each vendor's core offerings and functionalities
- Comparative analysis of key features and differentiators
- Hands-on experience with configuring and managing SD-WAN solutions (Cisco Platform)