

## JI3v course

### Course Contents

#### Day 1

##### Chapter 1: Course Introduction

##### Chapter 2: MPLS VPNs

- MPLS VPNs
- Provider-Provisioned VPNs

##### Chapter 3: Layer 3 VPNs

- Layer 3 VPN Terminology
- VPN-IPv4 Address Structure
- Operational Characteristics

##### Chapter 4: Basic Layer 3 VPN Configuration

- Preliminary Steps
- PE Router Configuration
- Lab: Layer 3 VPN with Static and BGP Routing

##### Chapter 5: Layer 3 VPN Scaling and Internet Access

- Scaling Layer 3 VPNs
- Public Internet Access Options
- Lab: LDP over RSVP Tunnels and Public Internet Access

#### Day 2

##### Chapter 6: Layer 3 VPNs – Advanced Topics

- Exchanging Routes between Routing Instances
- Hub-and-Spoke Topologies
- Layer 3 VPN CoS Options
- Layer 3 VPN and GRE Tunneling Integration
- Layer 3 VPN and IPsec Integration
- Layer 3 VPN Egress Protection
- BGP Prefix-Independent Convergence (PIC) Edge for MPLS VPNs
- VRF Localization
- Provider Edge Link Protection
- Support for Configuring More Than 3 Million L3VPN Labels
- Lab: GRE Tunneling and Route Redistribution

##### Chapter 7: Interprovider Backbones for Layer 3 VPNs

- Hierarchical VPN Models

- Carrier-of-Carriers Model
- Option C Configuration
- Lab: Carrier-of-Carriers VPNs

### **Chapter 8: Troubleshooting Layer 3 VPNs**

- Working with Multiple Layers
- Troubleshooting Commands on a PE Device
- Multi-Access Interfaces in Layer 3 VPNs
- PE and CE-Based Traceroutes
- Layer 3 VPN Monitoring Commands
- Lab: Troubleshooting Layer 3 VPNs

### **Day 3**

### **Chapter 9: Draft Rosen Multicast VPNs**

- Multicast Overview
- Draft Rosen MVPN Overview
- Draft Rosen MVPN Operation
- Configuration
- Monitoring

### **Chapter 10: Next-Generation Multicast VPNs**

- Multicast VPN Overview
- Next-Generation MVPN Operation
- Configuration
- Monitoring
- Internet Multicast
- Ingress Replication
- Internet Multicast Signaling and Data Plane
- Configuring MVPN Internet Multicast
- Monitoring MVPN Internet Multicast
- Lab: MVPNs

**Please note the highlighted topics will be covered theoretically only. No hands-on possible.**