

1st session, MPLS basics

- IP forwarding vs MPLS forwarding
 - label operations
 - role of LDP, RSVP
- basic MPLS configuration on IOS XE and IOS XR
 - manual vs automatic configuration
 - LDP RID vs transport address
 - explicit vs implicit labels
 - basic troubleshooting
- MPLS operations
 - adjusting label ranges
 - LDP sync and LDP session protection
 - LDP security - label filtering and peer authentication
 - MPLS TTL propagation
 - static label assignment
 - troubleshooting MPLS forwarding

2nd session, MPLS services

- MPLS QoS
 - EXP/TC field operations
 - Short/Long pipe vs Uniform model
 - MPLS DS-TE - RDM and MAM model
 - CBTS & PBTS
- MPLS TE
 - RSVP-TE extensions and signalling
 - dynamic and static tunnels
 - link and node protection with MPLS TE

3rd session, MPLS L3VPNs

- L3VPNs:
 - BGP role in MPLS L3 VPN
 - service vs transport label
 - PE-CE scenarios in MPLS L3VPNs
 - InterAS A/B/C
 - CsC

4th session, MPLS L2VPNs

- L2VPNs:
 - E-LINE, E-LAN, E-TREE
 - VPWS, VPLS, H-VPLS
- integration with 801.1Q, QinQ, 802.1ad

- BGP autodiscovery
- LDP signaled PWs
- BGP signaled PWs
- Intra and Inter-AS L2VPNs

5th session, Segment Routing intro

- MPLS evolution and simplification
- SR principles of operations
 - IGP extensions
 - various segment types
 - SRTE - traffic engineering
 - TI-LFA in SR

6th session, Segment Routing advanced

- LDP and SR interworking
- SR mapping servers
- migrating from MPLS to SR with MPLS data plane
- SRv6 and future of SR