

Session One:

BGP IOS Foundations, session 1 (Narbik)

- BGP Address-Family IPv4/IPv6
- 4 Byte AS Numbers
- Establishing a BGP session - prerequisites
- Establishing Neighbor Adjacency Using Different Methods
- Dynamic Peering, session-group, neighbor-group
- Hiding Local AS Number, Allow-AS
- Network advertisement, default route
- Administrative Distance
- Route-Refresh
- Peer-Groups

Session Two:

BGP XR Foundations

- BGP on XR architecture
- BGP differences between IOS and XR
- Multi-instances

Configurations from session 1 but on XR:

- BGP Address-Family IPv4/IPv6
- 4 Byte AS Numbers
- Establishing a BGP session - prerequisites
- Establishing Neighbor Adjacency Using Different Methods
- Dynamic Peering, session-group, neighbor-group
- Hiding Local AS Number, Allow-AS
- Network advertisement, default route
- Administrative Distance
- Route-Refresh

Session Three:

BGP Attributes

- AS_PATH
- NEXT_HOP
- AGGREGATOR
- ATOMIC_AGGREGATOR
- ORIGIN
- ORIGINATOR_ID
- WEIGHT

- LOCAL_PREF
- MED
- Best Path Algorithm
- BGP Automatic-Tag, and AS-Path tag & Table-map

Session Four:

BGP Traffic Engineering

- COMMUNITY
- EXT_COMM (Cost Community)
- Load Balancing, Load Sharing, dmzlink-bw
- Modifications to the Best Path algo
- BGP Route Policy in IOS
- BGP RPL in XR
 - Building policies
 - Actions
 - Parameters
- Selective and Conditional Advertisement and BGP Backdoors
- BGP ORR - Optimal Route Reflection
- Intra- and Inter-AS traffic engineering

Session Five:

BGP Scalability

- Confederations
- Route Reflectors
 - CLUSTER_ID, CLUSTER_LIST
 - Hierarchical RRs
- Persistent Routing Loop topology
- Route Oscillators in BGP
- BGP Filtering
- Selective FIB Download
- Route servers

Session Six:

BGP Performance - IOS/XR

- Tuning control-plane
- BGP Add-Path
- Route dampening
- BGP Convergence - IOS/XR
 - Keepalive
 - MRAI
 - NHT

- BGP Best-External
- BGP PIC Core/Edge