Building Scalable IP Networks

Hierarchical and modular IP networks ensure smooth operation and service functionality. Designing and implementing an addressing plan and selecting suitable routing protocols are the key elements to network scalability. VLSM is a crucial component of an effective IP addressing plan for a scalable network. This course introduces VLSM, provides examples, and discusses methods of determining the best subnet mask for a given address requirement. It provides the participants an in depth understanding of network design, planning, and implementing hierarchical IP Networks.

**Expected Accomplishments**

- Design & implement hierarchical IP addressing scheme-VLSM
- Compare IPv4 & IPv6 addresses
- Explain the concepts and operation of Dynamic Routing
- Compare Dynamic & Link state Routing
- Explain the working of Link State Routing Protocols
- Install, configure & maintain SME Routing Platforms
- Interconnect networks using appropriate routing protocols i.e. OSPF and IS-IS
- Troubleshoot IP Routing Problems
- Understand the concepts, operation and design of:
  - OSPF
  - IS-IS
  - BGP

**Course Outline**

- IP Routing principles
  - Distance Vector Routing Protocols
  - Link State Routing Protocols
- IP Addressing
  - Prefix Routing/CIDR
  - VLSM
  - Advantages of summarization
- Distance Vector Routing Protocols
- Link State Routing Protocols
- RIP
  - RIP operation
  - RIPv1 and RIPv2 comparison
  - Troubleshooting RIP

**Who Can Benefit**

Network and sales personnel in network designing, planning, and implementation

**Related Training**

- Interconnecting IP Networking Devices
- IP Networks
- Multiprotocol Lable Switching (MPLS)
Duration:
4 days

Mode
Consultant led classes with practical exercises

Prerequisites
Understanding of Data Communication Principles and IP Networks

Course Code: TDN-155