Designing Cisco Enterprise Networks (ENSLD)

Description

The D**esigning Cisco Enterprise Networks (ENSLD)** training gives you the knowledge and skills you need to design an enterprise network. This training serves as a deep dive into enterprise network design and expands on the topics covered in the Implementing and Operating Cisco® Enterprise Network Core Technologies (ENCOR) training.

This training also helps you prepare for the 300-420 ENSLD v1.1 exam. If passed, you earn the Cisco Certified Specialist – Enterprise Design certification and satisfy the concentration exam requirement for the Cisco Certified Network Professional (CCNP) Enterprise certification. This training also earns you 40 Continuing Education (CE) credits toward recertification.

How you'll benefit

This training will help you:

- Learn the skills, technologies, and best practices needed to design an enterprise network
- Deepen your understanding of enterprise design including advanced addressing and routing solutions, advanced enterprise campus networks, WAN, security services, network services, and software-defined access (SDA)
- Prepare for the 300-420 ENSLD v1.1 exam
- Earn 40 CE credits toward recertification

Who should enroll

- Network Design Engineers
- Network Engineers
- System Administrators

Technology areas

- Enterprise Networking
- Routing and Switching
- Design

Objectives

- Design Enhanced Interior Gateway Routing Protocol (EIGRP) internal routing for the enterprise network
- Design Open Shortest Path First (OSPF) internal routing for the enterprise network
- Design Intermediate System to Intermediate System (IS-IS) internal routing for the enterprise network
- Design a network based on customer requirements
- Design Border Gateway Protocol (BGP) routing for the enterprise network
- Describe the different types and uses of Multiprotocol BGP (MP-BGP) address families
- Describe BGP load sharing
- Design a BGP network based on customer requirements
- Decide where the L2/L3 boundary will be in your Campus network and make design decisions
- Describe Layer 2 design considerations for Enterprise Campus networks
- Design a LAN network based on customer requirements
- Describe Layer 3 design considerations in an Enterprise Campus network
- Examine Cisco SD-Access fundamental concepts
- Describe Cisco SD-Access Fabric Design
- Design a Software-Defined Access (SD-Access) Campus Fabric based on customer requirements
- Design service provider-managed VPNs
- Design enterprise-managed VPNs
- Design a resilient WAN
- Design a resilient WAN network based on customer requirements
- Examine the Cisco SD-WAN architecture
- Describe Cisco SD-WAN deployment options
- Design Cisco SD-WAN redundancy
- Explain the basic principles of QoS
- Design Quality of Service (QoS) for the WAN
- Design QoS for enterprise network based on customer requirements
- Explain the basic principles of multicast
- Designing rendezvous point distribution solutions
- Describe high-level considerations when doing IP addressing design
- Create an IPv6 addressing plan
- Plan an IPv6 deployment in an existing enterprise IPv4 network
- Describe the challenges that you might encounter when transitioning to IPv6
- Design an IPv6 addressing plan based on customer requirements
- Describe Network APIs and protocols
- Describe Yet Another Next Generation (YANG), Network Configuration Protocol (NETCONF), and Representational State Transfer Configuration Protocol (RESTCONF)

Prerequisites

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- Understanding of network fundamentals
- LANs implementation
- LAN connectivity implementation

These skills can be found in the following Cisco Learning Offerings:

- Implementing and Administering Cisco Solutions (CCNA)
- Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR)

Outline

- Designing EIGRP routing
- Designing OSPF routing
- Designing IS-IS routing
- Designing BGP routing and redundancy
- Exploring BGP Address Families and Attributes
- Designing an Enterprise Campus LAN
- Designing Layer 2 Campus
- Designing a Layer 3 Campus
- Discovering the Cisco SD-Access Architecture
- Exploring Cisco SD-Access Fabric Design
- Exploring Cisco SD-Access Site Design Strategy and Considerations
- Discovering Service Provider-Managed VPNs
- Designing Enterprise-Managed VPNs
- Designing WAN Resiliency
- Examining Cisco SD-WAN Architectures
- Examining Cisco SD-WAN Deployment Design Considerations
- Examining Cisco SD-WAN—NAT and Hybrid Design Considerations
- Designing Cisco SD-WAN Routing and High Availability
- Exploring QoS
- Designing LAN and WAN QoS
- Introducing Multicast
- Exploring Multicast with PIM-SM
- Designing Rendezvous Point Distribution Solutions
- Designing an IPv4 Address Plan
- Exploring IPv6
- Deploying IPv6
- Introducing Network APIs and Protocols
- Exploring YANG, NETCONF, RESTCONF, and Model-Driven Telemetry

Lab Outline

- Designing Enterprise Connectivity
- Designing an Enterprise Network with BGP Internet Connectivity
- Designing an Enterprise Campus LAN
- Designing Resilient Enterprise WAN
- Designing QoS in an Enterprise Network
- Designing an Enterprise IPv6 Network

What to expect on the exam

Designing Cisco Enterprise Networks (300-420 ENSLD) v1.1 is a 90-minute exam associated with the Cisco Certified Specialist – Enterprise Design certification and satisfies the concentration requirement for the CCNP Enterprise certification.

This exam tests your knowledge of enterprise design, including:

- Advanced addressing and routing solutions
- Advanced enterprise campus networks
- WAN
- Security services
- Network services
- SDA

Links

- Cisco U. Learning Path
- Cisco Learning Network Store
- Cisco Learning Locator