Implementing & Operating Cisco Enterprise Network Core Technologies

- 5 Days
- Lecture and Hands-on Labs

Course Overview

The Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR) v1.2 course gives you the knowledge and skills needed to configure, troubleshoot, and manage enterprise wired and wireless networks. You'll also learn to implement security principles, implement automation and programmability within an enterprise network, and how to overlay network design by using SD-Access and SD-WAN solutions.

The course qualifies for 64 Cisco Continuing Education Credits (CE) toward recertification.

This course helps you prepare to take the 350-401 Implementing Cisco® Enterprise Network Core Technologies (ENCOR) exam, which is part of four new certifications:

- CCNP® Enterprise
- CCIE® Enterprise Infrastructure
- CCIE Enterprise Wireless
- Cisco Certified Specialist – Enterprise Core

This course will help you:

- Configure, troubleshoot, and manage enterprise wired and wireless networks
- Implement security principles within an enterprise network

Review this course online at https://www.alta3.com/courses/encor

Who Should Attend

- Mid-level network engineers
- Network administrators
- Network support technicians
- Help desk technicians

What You'll Learn

- Deploy and Manage Enterprise Wired and Wireless Infrastructure
- Implement Scalable Security, Redundancy, and Virtualization
- Analyze and Optimize Network Performance and Services
- Automate with Python, APIs, and Cisco DNA Center

Outline

1. Examining Cisco Enterprise Network Architecture
2. Understanding Cisco Switching Paths
3. Implementing Campus LAN Connectivity
4. Building Redundant Switched Topology
5. Implementing Layer 2 Port Aggregation
6. Understanding EIGRP

7. Implementing OSPF
8. Optimizing OSPF
9. Exploring EBGP
10. Implementing Network Redundancy
11. Implementing NAT
12. Introducing Virtualization Protocols and Techniques
13. Understanding Virtual Private Networks and Interfaces
14. Understanding Wireless Principles
15. Examining Wireless Deployment Options
16. Understanding Wireless Roaming and Location Services
17. Examining Wireless AP Operation
18. Understanding Wireless Client Authentication
19. Troubleshooting Wireless Client Connectivity
20. Introducing Multicast Protocols
21. Introducing QoS
22. Implementing Network Services
23. Using Network Analysis Tools
24. Implementing Infrastructure Security
25. Implementing Secure Access Control
26. Understanding Enterprise Network Security Architecture
27. Exploring Automation and Assurance Using Cisco DNA Center
28. Examining the Cisco SD-Access Solution
29. Understanding the Working Principles of the Cisco SD-WAN Solution
30. Understanding the Basics of Python Programming
31. Introducing Network Programmability Protocols
32. Introducing APIs in Cisco DNA Center and vManage

Numbered Lab Outline

1. Investigate the CAM
2. Analyze Cisco Express Forwarding
3. Troubleshoot VLAN and Trunk Issues
4. Tune STP and Configure RSTP
5. Configure Multiple Spanning Tree Protocol
6. Troubleshoot EtherChannel
7. Implement Multi-Area OSPF
8. Tune and Optimize OSPF
9. Implement OSPFv3
10. Configure and Verify Single-Homed EBGP
11. Implement HSRP
12. Configure VRRP
13. Implement NAT
14. Configure and Verify VRF
15. Configure and Verify GRE Tunnel
16. Configure Static VTI Point-to-Point Tunnels
17. Configure Wireless Client Authentication
18. Troubleshoot Wireless Client Connectivity
19. Configure Syslog
20. Configure and Verify Flexible NetFlow
21. Configure Cisco IOS Embedded Event Manager (EEM)
22. Troubleshoot with Ping, Traceroute, and Debug
23. Configure and Verify Cisco IP SLAs
24. Configure Standard and Extended ACLs
25. Configure Control Plane Policing

26. Implement Local and Server-Based AAA
27. Write and Troubleshoot Python Scripts
28. Explore JSON Objects and Python Scripts
29. Use NETCONF via SSH
30. Use RESTCONF with Cisco IOS XE

Prerequisites

- Implementation of Enterprise LAN networks
- Basic understanding of Enterprise routing and wireless connectivity
- Basic understanding of Python scripting