Interconnecting Cisco Networking Devices (CCENT), Part 4 of 4: Medium Networks and IPv6

Meet the expert: As a certified Microsoft Instructor, Ken has focused his career on various security aspects of computer and network technology since the early 1980s. He has offered a wide variety of IT training and high level consulting projects for Fortune 500 companies globally. Through the course of his extensive career, he has taught a full line of Microsoft, CompTIA, Cisco, and other high level IT Security curricula.

Prerequisites: This is part 4 in the series.

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Course description: Interconnecting Cisco Networking Devices Part 1 is the exam associated with the Cisco Certified Entry Network Technician (CCENT) certification or the first half of the Cisco Certified Network Associate Routing and Switching (CCNA Routing and Switching). This course covers medium sized network and how to manage more traffic. It will cover Virtual Local Area Network (VLAN), moving traffic between VLANs, routers as DHCP servers, relaying to other routers, WAN, and finish with routing protocols such as Open Shortest Path First or OSPF

Course outline:

Implementing VLANs
- Introduction
- Problems with a Poorly Designed Network
- Introducing VLANs
- Trunks and 802.1Q
- Using Trunks
- Using Trunks Continued
- How to Create a VLAN
- Verify the VLAN
- Assign VLAN to an Access Port
- Creating a Trunk
- VTP
- VTP Configuration
- VLANs Design Practices
- VLAN Design Practices Continued
- Designing Redundancy
- Summary
- Summary

Routing Between VLANs
- Introduction
- Introducing WANs
- WAN Uses
- Comparing WANs and LANs
- Routers and the WAN
- Types of WAN Links
- Using Point-to-Point Connections
- Summary
- Summary

Cisco Network Device as DHCP Server
- Introduction
- DHCP
- How DHCP Works
- Configuring DHCP on a Router
- Configuring DHCP on a Router Continued
- DHCP Monitoring
- DHCP Relay Agent
- DHCP Relay Agent Continued
- Summary
- Summary

Dynamic Routing Protocols
- Introduction
- Why Use a Dynamic Routing Protocol
- Why Use a Dynamic Routing Protocol Continued
- Remote Networks
- Classifying Routing Protocols
- RIP
- Understanding the Link State Protocol
- Understanding the Link-State Protocol Continued
- RIPv2
- RIPv2 Limitations
- Metric
- RIP Configuration
- RIPng
- Summary
- Summary

Implemeting OSPF
- Introduction
- Implementing OSPF
- Adjacencies
- The SPF Algorithm
- The SPF Algorithm Continued
- Router-ID
- Router-ID Continued
- Configuring Single Area OSFP
- Configuring Single Area OSPF Continued
- Verify OSPF
- Verify OSPF Continued
- Summary

Configure VLANs Demo
- Introduction
- OSPF Summary
- Demo: Configuring VLANs
- Demo: Steps
- Demo: Moving Ports
- Demo: Create a DHCP Router
- Demo: Trunking
- Demo: Change Subnets
- Demo: Static Routes
- Demo: Helper Addresses
- Summary

OSPF Demo
- Introduction
- Demo: Review
- Demo: Subnetting
- Demo: Configure Routes
- Demo: Configure Routes Continued
- Demo: Routing Protocols
- Demo: Headquarters
- Demo: OSPF
- Demo: Branch Routers
- Demo: Branch Router with Subnets
- Demo: Troubleshooting
- Demo: RIP
- Demo: Messing up RIP
- Demo: Additional Configuration Options
- Summary

Understanding IPv6
- Introduction
- Review of IPv4 Header
- The IPv6 Header
- ICMPv6
- ARP
- SLAAC
- SLAAC Continued
- SLAAC for Routers
- Summary
- Summary