Cisco CCNP Implementing Cisco IP Routing , Part 1 of 4: Planning and EIGRP

Meet the expert: Carlo has worked in the computer technologies industry since the mid-90s. He is also a certified member of Microsoft, Cisco, ISACA, PMI, CompTIA,

IIC, and EC-Council. He has designed and customized courses for private and public

sectors, including college curriculums, and has worked as a lead consultant engineer

in corporate Cyber security and Information Assurance training since 2001.

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 1 of the series.

Runtime: 02:24:11

Course description: Implementing Cisco IP Routing is a qualifying exam for the Cisco Certified Network Professional CCNP®. This course starts off with describe common enterprise traffic requirements and how to plan for implementing routing in an Enterprise network. Next it covers a review of routing fundamentals. Then it will describe EIGRP, how to plan EIGRP routing as well as optimization and in the Enterprise WAN.

Course outline:

Enterprise Network Frameworks and Architecture
- Introduction
- Traffic Conditions in a Converged Network
- IIN: Cisco Intelligent Information Network
- 3 Phases of the Intelligent Information Network
- Cisco SONA Framework
- SONA Layers
- Updated SONA Framework
- Cisco Enterprise Architecture
- Architecture Types
- Cisco Hierarchical Network Model
- The Enterprise Composite Network Model
- Summary

Implementation Plan
- Introduction
- Creating an Implementation Plan
- Implementation Plan Approaches
- Methodologies and Models
- Cisco Lifecycle Services (PPDIOO) Model
- Implementation Plan Documentation
- Sample Implementation Plan
- Examples of Project Documents
- Summary

IP Routing
- Introduction
- IP Routing
- Third Option: OnDemand Routing
- Link-State vs. Distance Vector Protocols
- Classless vs. Classful Routing
- Discontinugous Subnets
- IP Classless Command
- Automatic Route Summarization
- Routing Table Criteria
- Administrative Distance
- Floating Static Route
- Demo: RIP Next Generation Setup
- Demo: RIP Next Generation Setup Continued
- Demo: Set up a Static Address
- Demo: Configure RIP Next Generation
- Demo: Configure RIP Next Generation Continued
- Demo: Troubleshooting
- Summary

EIGRP Terminology
- Introduction
- EIGRP Attributes and Capabilities
- Terminology of the EIGRP Protocol
- Tables Used with the EIGRP Protocol
- FD vs. AD
- Feasible Successor and Active vs. Passive Routes
- Major EIGRP Technologies
- Reliable Transport Protocols
- Neighbor Discovery and PDMs
- DUAL Finite-State Machine
- Packet Types Used by EIGRP
- EIGRP Administrative Distance
- EIGRP Metric Calculation and Bandwidth
- Summary

Planning EIGRP Routing Implementation
- Introduction
- EIGRP Deployment Prerequisites and Implementation
- EIGRP Verification and Documentation
- Summary

EIGRP Routing
- Introduction
- Enable EIGRP Routing
- Demo: Enable EIGRP
- Automatic Summarization
- Demo: Automatic Summarization
- EIGRP Commands
- Demo: Automatic Summarization
- Passive-Interface and Default Route Propagation
- Demo: Passive-Interface
- IP Default Network Command and Route Summarization
- Demo: IP Default Network
- Demo: Next Hop
- Interface Summarization
- Demo: Next Hop Continued
- Creating a Summary Route
- Demo: Summarization
- Summary

EIGRP Enterprise WAN
- Introduction
- WAN and Enterprise Considerations
- Demo: Frame Relay Using Dynamic Mapping
- Load Balancing with EIGRP
- Demo: EIGRP over Layer 3 MPLS VPN
- Demo: EIGRP over Layer 2 MPLS VPN

(Continued on page 2)

Cisco CCNP Implementing Cisco IP Routing , Part 1 of 4: Planning and EIGRP

- Unequal EIGRP Cost Load Balancing
- EIGRP Bandwidth to Use on WAN LInks
- Summary

EIGRP Authentication
- Introduction
- Authentication in Routers
- Comparing MD5 to Simple Password
- Preparing to Configure EIGRP Configuration
- Demo: EIGRP Authentication
- The Configuration of EIGRP Authentication
- Demo: Configure the Keychain
- Summary

Optimize EIGRP
- Introduction
- Demo: Enable Authentication with the Keychain
- EIGRP Scalability
- Query Process and Stuck-in-Active
- Summarization: SIA Solution
- Stub Networks
- Demo: Add IPv4 Addresses
- Demo: Add IPv4 Addresses Continued
- Demo: Configure EIGRP
- Demo: Configure EIGRP Continued
- Summary