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