
Building Scalable Cisco Internetworks

Duration: 5 Days **Course Code: BSCI**

Overview:

This course is designed to teach network administrators of medium-to-large network sites on the use of advanced IP addressing and routing in implementing scalability for Cisco routers that are connected to LANs and WANs. The goal is to train network administrators to dramatically increase the number of routers and sites using these techniques instead of redesigning the network when additional sites or wiring configurations are added. BSCI delivers these techniques over the course of eight modules, with each module containing several lessons and numerous hands-on labs

Target Audience:

This course is designed for the candidates for the Cisco CCNP®, CCDP®, and CCIP® Certifications as well as network administrators and technicians responsible for supporting, implementing and troubleshooting complex routed network environments.

Objectives:

- **After you complete this course you will be able to**
 - Describe the converged network requirements of various network and networked applications within the Cisco network architectures
 - Implement and verify Enhanced Interior Gateway Routing Protocol (EIGRP) operations
 - Build a scalable multiarea network with Open Shortest Path First Protocol (OSPF)
 - Configure Integrated Intermediate System-to-Intermediate System Protocol (IS-IS) in a single area
 - Manipulate routing and packet flow
 - Implement and verify Border Gateway Protocol (BGP) for enterprise Internet service provider (ISP) connectivity
 - Implement and verify multicast forwarding using Protocol Independent Multicast (PIM) and related protocols
 - Describe how Internet Protocol version 6 (IPv6) functions to satisfy the increasingly complex requirements of hierarchical addressing
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Prerequisites:

Attendees should meet the following prerequisites:

- [ICND1](#) Interconnecting Cisco Network Devices Part 1
- [ICND2](#) Interconnecting Cisco Network Devices Part 2
- Or
- [CCNABC](#) Cisco CCNA Certification Fast Track Programme

Testing and Certification:

Recommended preparation for exam(s):

- [642-901](#) BSCI

This exam is required for those delegates wishing to achieve either the Cisco Certified Network Professional, the Cisco Certified Internetwork Professional or the Cisco Certified Design Professional Certifications

Follow-on-Courses:

The following courses are recommended for further study:

- BCMSN Building Cisco Multilayer Switched Networks (CCNP,CCDP)
- ONT Optimizing Converged Cisco Networks (CCNP)
- ISCW Implementing Secure Converged Wide Area Networks (CCNP)
- ARCH Designing Cisco Network Architectures (CCDP)
- QOS Implementing Cisco Quality of Service (CCIP)
- BGP Configuring BGP on Cisco Routers (CCIP)
- MPLS Implementing Cisco MPLS (CCIP)

Content:

Network Requirements

- Describing Network Requirements

Configuring EIGRP

- Introducing EIGRP
- Implementing and Verifying EIGRP
- Configuring Advanced EIGRP Options
- Configuring EIGRP Authentication
- Using EIGRP in an Enterprise Network

Configuring OSPF

- Introducing the OSPF Protocol
- OSPF Packet Types
- Configuring OSPF Routing
- OSPF Network Types
- Link-State Advertisements
- Configuring OSPF Route Summarization
- Configuring OSPF Special Area Types
- Configuring OSPF Authentication

The IS-IS Protocol

- Introducing IS-IS and Integrated IS-IS Routing
- Performing IS-IS Routing Operations
- Configuring Basic Integrated IS-IS

Manipulating Routing Updates

- Operating a Network Using Multiple IP Routing Protocols
- Configuring and Verifying Route Redistribution
- Controlling Routing Update Traffic
- Implementing Advanced Cisco IOS Features : Configuring DHCP

Implementing BGP

- Explaining BGP Concepts and Terminology
- Explaining EBGP and IBGP
- Configuring Basic BGP Operations
- Selecting a BGP Path
- Using Route Maps to Manipulate Basic BGP Paths

Implementing Multicast

- Explaining Multicast
- IGMP and Layer 2 Issues
- Explaining Multicast Routing Protocols
- Multicast Configuration and Verification

Implementing IPv6

- Introducing IPv6
- Defining IPv6Addressing
- Implementing Dynamic IPv6 Addresses
- Using IPv6 with OSPF and Other Routing ProtocolsUsing IPv6 with IPv4
- Using IPv6 with IPv4

Labs

- Lab 2-0: Basic Configuration
- Lab 2-1: Configuring and Tuning EIGRP
- Lab 3-1: Configuring Single-Area OSPF
- Lab 3-2: Configuring OSPF for Multiple Areas and Frame Relay Nonbroadcast
- Lab 3-3: Configuring OSPF for Multiple Areas and Frame Relay Point-to-Multipoint and Point-to-Point
- Lab 3-4: Tuning OSPF
- Lab 4-1: Configuring Integrated IS-IS
- Lab 5-1: Configuring Basic Redistribution
- Lab 5-2: Tuning Basic Redistribution with Cisco IOS Tools
- Lab 6-1: Configuring Multihome BGP
- Lab 6-2: Manipulating BGP Path Selection with Route Maps
- Lab 7-1: Configuring Multicast Routing
- Lab 8-1: Configuring IPv6 Addresses
- Lab 8-2: Enabling IPv6 OSPF Routing
- Lab 8-3: Configuring IPv6 Tunnels

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 01924 377489

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