

Hands-On OSPF and BGP Advanced



Course Description

This Extensive Hands-On course Advances attendees to the main Interior and Exterior Gateway protocols, OSPF and BGP4. This course will cover configuration, design, monitor, and troubleshooting of OSPF and BGP protocol from where the Basic course left off to this advanced level course.

This course is the follow-on course from our Hands-On OSPF and BGP Basics 3-day course.

This is a powerful Hands-On course that provides you with the required knowledge and skills to design, deploy, operate, and maintain an Internet service provider (ISP) backbone network. You will learn the primary principles of the routing protocols that are used in small to very large networks.

Target Audience

Individuals who deploy networks using OSPF or BGP technology in an enterprise or service provider environment and anyone who designs high-end ISP networks that use scalable technologies such as OSPF and BGP.

Prerequisites

Networking experience and TCP/IP network design knowledge, and have taken our Hands-On OSPF and BGP Basics 3-day course, or have equivalent knowledge and experience is required for this advanced course.

Course Outline

1: Simple OSPF Configurations

- Structure of a Routing Table
- Prefix length
- The function of routing protocols
- Route propagation
- Distance Vector vs. Link State protocols
- Metrics

- Hands-on Configuring OSPF

2: OSPF Hierarchy

- Enhancing configurations to use Areas
- Route summarization
- Area Border Routers
- Stub Areas
- Injecting Routes
- Not so Stubby Areas
- Area Metrics
- Virtual Links
- Transit Areas
- Hands-on Exercise Configuring Multiple Area Hierarchy

3: Designing With OSPF

- Large Network Design Guidelines
- Partitioning Networks
- Area Design Considerations
- Topology Design Considerations
- Area Addressing
- Multiprotocol routing prioritization
- Redistribution
- Hands-on Exercise Deploying Route Distribution Approaches

4: Monitoring and Enhancing BGP4

- Routing Beyond The Enterprise
- Exterior gateway protocols
- Policy-based routing
- Monitoring BGP4
- BGP Sessions
- BGP Keep-alive
- Path Vectors
- Path Attributes
- Acceptable Use Policy
- Hop-by-hop routing issues
- BGP Routing Flow
- Route Selection
- Route Maps
- Input Policies
- Output Policies, Metric and Path
- Transit AS
- Aggregates and Defaults

- DMZ
- Synchronization with IBGP
- Route stability and flapping
- Route Injection
- Route Redistribution
- Policy Conflicts
- Load Balancing
- BGP Route reflectors
- BGP Confederations
- Implementation Planning
- Hands-on Building Enhanced Interconnected Autonomous Systems

Evaluation and Review

Delivery Method

Instructor-Led with Hands-On Labs and exercises.

Equipment Requirements

(This apply's to our hands-on courses only)

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

Course Length

2 Days