MCAST - Implementing Cisco Multicast

COURSE CODE: MCAST

PRICE: $4300 | DURATION: 5 DAYS | **FORMAT**: Kit & Lab | CLC 43 | CE 40

Course Description

The **Implementing Cisco Multicast (MCAST)** v2.0 course teaches you the fundamentals of IP multicasting, including multicast applications, sources, receivers, group management, and IP multicast routing protocols such as Protocol Independent Multicast (PIM) used within a single administrative domain. You will learn about issues in switched LAN environments and reliable IP multicasting, and technical solutions for simple deployments of IP multicast within a provider or customer network. The course reviews the configuration and troubleshooting guidelines for implementation of IP multicast on Cisco® routers. Labs offer hands-on experience to help you prepare to deploy IP multicast successfully.

How You'll Benefit

This course will help you:

- Gain a solid understanding of the fundamentals of IP multicasting
- Understand the configuration and troubleshooting guidelines for implementation of IP multicast on Cisco routers
- Prepare to deploy IP multicast within a provider or customer network

Who Should Enroll

- Network professionals, including systems engineers
- Channel Partners
- Customers

Course Objectives

After taking this course, you should be able to:

- Describe IP multicast services
- Identify IP multicast issues on a data link layer
- Explain why Protocol Independent Multicast Sparse Mode (PIM-SM) is the most current scalable IP multicast routing protocol
- Describe Rendezvous Point (RP) distribution solutions
- Recognize the drawbacks of the PIM-SM and describe two extensions to provide possible solutions
- Explain basic concepts of Multiprotocol BGP (MP-BGP) and its use in the IP multicast environment
- Configure and deploy Multicast Source Discovery Protocol (MSDP) in the interdomain environment
- Describe solutions to mitigate security issues in the IP multicast network
- Describe the process of monitoring and maintaining multicast high-availability operations

- Design multicast-related application and network solutions in customer and service provider networks

Upon completion of this course, you will be able to:

- Introduce IP multicast services, to evaluate the functional model of IP multicasting and the technologies present in IP multicasting, acknowledge IP multicast benefits and associated caveats, and determine various types of multicast applications in order to understand the IP multicast conceptual model and its implementation prerequisites
- Identify IP multicast issues on a data link layer, explain the methods of mapping network layer multicast addresses to data link layer addresses, and list the mechanisms for constraining multicast streams in a LAN environment
- Introduce Protocol Independent Multicast sparse mode (PIM-SM) as the most current scalable IP multicast routing protocol to learn the principles of protocol operation and details, become familiar with the determinism built into sparse mode multicast protocols, and configure and deploy PIM-SM in complex IP multicast network deployments

Course Prerequisites

It is recommended, but not required, that students have the following knowledge and skills:

- Work experience and configuration skills for Cisco routers and LAN switches
- CCNA Routing and Switching Certification
- Attended the Implementing Cisco IP Routing (ROUTE) Training Course

Course Outline

- Module 1: IP Multicast Concepts and Technologies
- Module 2: Multicast on the LAN
- Module 3: PIM Sparse Mode
- Module 4: Rendezvous Point Engineering
- Module 5: PIM Sparse Mode Protocol Extensions
- Module 6: Multiprotocol Extensions for BGP
- Module 7: Interdomain IP Multicast
- Module 8: IP Multicast Security
- Module 9: Multicast Optimization and High-Availability Features
- Module 10: Applications of Multicast

Lab Outline

- Layer 2 and Layer 3 Multicast
- PIM-SM Protocol Basics
- PIM-SM Protocol Mechanics and Timers
- PIM Sparse-Dense Mode and Manual RP Configuration
- Configuring Dynamic RP Information Distribution
- Bidirectional PIM
- Source-Specific Multicast
- Anycast RP, External MP-BGP, and MSDP Peering