Implementing Cisco Multicast (MCAST)

Category: Networking & Security | **Vendor:** Cisco

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

The Implementing Cisco Multicast (MCAST) v2.0 course is a five-day instructor-led course covering the fundamentals of IP multicasting, which includes multicast applications, sources, receivers, group management, and IP multicast routing protocols (such as Protocol Independent Multicast, PIM) used within a single administrative domain (intradomain). The issues of switched LAN environments and reliable IP multicasting are covered as well. The course provides technical solutions for simple deployments of IP multicast within a provider or customer network. The curriculum provides the configuration and troubleshooting guidelines for implementation of IP multicast on Cisco routers. The labs provide students with the hands-on experience needed to successfully deploy IP multicast.

About This Course

The Implementing Cisco Multicast (MCAST) v2.0 course is a five-day instructor-led course covering the fundamentals of IP multicasting, which includes multicast applications, sources, receivers, group management, and IP multicast routing protocols (such as Protocol Independent Multicast, PIM) used within a single administrative domain (intradomain). The issues of switched LAN environments and reliable IP multicasting are covered as well. The course provides technical solutions for simple deployments of IP multicast within a provider or customer network. The curriculum provides the configuration and troubleshooting guidelines for implementation of IP multicast on Cisco routers. The labs provide students with the hands-on experience needed to successfully deploy IP multicast.

Who Should Attend

The primary audience for this course is as follows:

- Network professionals, including systems engineers
- Partners
- Customers

Prerequisites & Entry Requirements

General Prerequisites:

We recommend that you have the following knowledge and skills before taking this course:

- Work experience and configuration skills for Cisco routers and LAN switches

Learning Outcomes

Upon successful completion of this course, participants will be able to:

Upon completing this course, the learner will be able to meet these overall objectives:

- 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
- Review RP distribution solutions, recognize the drawbacks of manual RP configuration, become familiar with the Auto-Rendezvous Point (Auto-RP) and the bootstrap router
- (BSR) mechanisms, and introduce the concept of Anycast RP that works in combination with the Multicast Source Discovery Protocol (MSDP)
- Recognize the drawbacks of the PIM-SM and introduce two extensions to provide possible solutions; learn about mechanics of the Source Specific Multicast (SSM) and bidirectional mode of PIM-SM in order to configure and deploy SSM and bidirectional mode of the PIM-SM in a large service provider network
- Explain basic concepts of Multiprotocol BGP (MP-BGP) and its use in the IP multicast environment, apply steps that are associated with configuring MP-BGP with Address Family Identifier (AFI) syntax to support IP multicast in the interdomain environment
- Configure and deploy MSDP in the interdomain environment
- Introduce solutions to mitigate security issues in the IP multicast network. Examine and implement suitable virtual private network (VPN) technologies, such as Generic Routing Encapsulation (GRE) with IP Security (IPsec) and Group Encrypted Transport (GET) VPN
- Describe the process of monitoring and maintaining multicast high-availability operations, introduce the PIM triggered join feature, and describe how load splitting IP multicast traffic over Equal-Cost

Multipath (ECMP) works

Detailed Course Outline

Module 1: IP Multicast Concepts and Technologies

- Lesson 1: Introducing IP Multicast
- Lesson 2: Understanding the Multicast Service Model
- Lesson 3: Defining Multicast Distribution Trees and Forwarding
- Lesson 4: Reviewing Multicast Protocols

Module 2: Multicast on the LAN

- Lesson 1: Mapping Layer 3 to Layer 2
- Lesson 2: Working with Cisco Group Management Protocol
- Lesson 3: Using IGMP Snooping

Module 3: PIM Sparse Mode

- Lesson 1: Introducing Protocol Independent Multicast Sparse Mode
- Lesson 2: Understanding PIM-SM Protocol Mechanics
- Lesson 3: Using PIM-SM in a Sample Situation
- Lesson 4: Configuring and Monitoring PIM-SM

Module 4: Rendezvous Point Engineering

- Lesson 1: Identifying RP Distribution Solutions

- Lesson 2: Implementing Auto-RP

- Lesson 3: Using PIMv2 BSR

- Lesson 4: Using Anycast RP and MSDP

Module 5: PIM Sparse Mode Protocol Extensions

- Lesson 1: Introducing Source Specific Multicast

- Lesson 2: Configuring and Monitoring SSM

- Lesson 3: Reviewing Bidirectional PIM

- Lesson 4: Configuring and Monitoring Bidirectional PIM

Module 6: Multiprotocol Extensions for BGP

- Lesson 1: Introducing MP-BGP

- Lesson 2: Configuring and Monitoring MP-BGP

Module 7: Interdomain IP Multicast

- Lesson 1: Examining Dynamic Interdomain IP Multicast

- Lesson 2: Explaining Multicast Source Discovery Protocol

- Lesson 3: Using MSDP SA Caching

- Lesson 4: Configuring and Monitoring MSDP

Module 8: IP Multicast Security

- Lesson 1: Introducing IP Multicast and Security

- Lesson 2: Securing a Multicast Network

Module 9: Multicast Optimization and High-Availability Features

- Lesson 1: Using Multicast Optimization and High-Availability Features

Module 10: Applications of Multicast

- Lesson 1: Exploring IP Multicast and Video Applications

- Lesson 2: Using IP Multicast in Mission-Critical Environments

- Lesson 3: Exploring How Enterprise IT Uses IP Multicasting Globally

Skills You Will Learn:

Upon completing this course, the learner will be able to meet these overall objectives:

- 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
- Review RP distribution solutions, recognize the drawbacks of manual RP configuration, become familiar with the Auto-Rendezvous Point (Auto-RP) and the bootstrap router
- (BSR) mechanisms, and introduce the concept of Anycast RP that works in combination with the Multicast Source Discovery Protocol (MSDP)
- Recognize the drawbacks of the PIM-SM and introduce two extensions to provide possible solutions; learn about mechanics of the Source Specific Multicast (SSM) and bidirectional mode of PIM-SM in order to configure and deploy SSM and bidirectional mode of the PIM-SM in a large service provider network
- Explain basic concepts of Multiprotocol BGP (MP-BGP) and its use in the IP multicast environment, apply steps that are associated with configuring MP-BGP with Address Family Identifier (AFI) syntax to support IP multicast in the interdomain environment
- Configure and deploy MSDP in the interdomain environment
- Introduce solutions to mitigate security issues in the IP multicast network. Examine and implement suitable virtual private network (VPN) technologies, such as Generic Routing Encapsulation (GRE) with IP Security (IPsec) and Group Encrypted Transport (GET) VPN
- Describe the process of monitoring and maintaining multicast high-availability operations, introduce the PIM triggered join feature, and describe how load splitting IP multicast traffic over Equal-Cost Multipath (ECMP) works

Frequently Asked Questions

Q: What delivery options are available for Implementing Cisco Multicast (MCAST)?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 5-day Implementing Cisco Multicast (MCAST) course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Implementing Cisco Multicast (MCAST) training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Implementing Cisco Multicast (MCAST)?

Yes, we provide corporate training, dedicated training, and closed classes for Implementing Cisco Multicast (MCAST). Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Implementing Cisco Multicast, Cisco Networking, MCAST

Q: Why choose Nexus Human for Implementing Cisco Multicast (MCAST)?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Implementing Cisco Multicast (MCAST) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

Professional Training & Development

Email: info@nexushuman.com

Website: www.nexushuman.com

Phone: +353 1 889 8700 (Ireland) | +44 20 8142 8961 (UK)

© 2026 Nexus Human. All rights reserved. This brochure was generated on 14/11/2026.