



CISCO TRAINING

Implementing Cisco Multicast

Master implementing Cisco Multicast to optimize network performance. Learn to efficiently distribute data across your enterprise networks.

DURATION

2 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

-
- Globally Recognized Certification
 - Expert-Led Hands-On Training
 - Flexible Scheduling

Computer Pride | 1st Floor, ICEA Building, Kenyatta Avenue, Nairobi | www.computer-pride.co.ke

COURSE OVERVIEW

The "Implementing Cisco Multicast" course is designed for network professionals seeking to master the deployment, configuration, and troubleshooting of multicast routing in modern Cisco-powered networks. Multicast technology is crucial for efficient delivery of bandwidth-intensive applications such as IPTV, video conferencing, real-time data feeds, and corporate broadcasts. This program delves deep into core multicast protocols, including Internet Group Management Protocol (IGMP) and Protocol Independent Multicast (PIM) in its various modes (Dense, Sparse, Bidirectional, and Source Specific Multicast).

Participants will gain hands-on experience with Cisco IOS-XE devices, learning how to configure Rendezvous Points (RPs), implement IGMP snooping, and optimize multicast distribution trees. The curriculum also covers essential troubleshooting methodologies and command-line tools to diagnose and resolve common multicast-related issues, ensuring stable and high-performance network services. This intermediate-level course, packed into a focused 2-hour duration, provides a rapid yet thorough immersion into a critical networking domain.

Upon completion, you will be proficient in designing and implementing robust multicast solutions, significantly enhancing your network's efficiency and scalability. This expertise is invaluable for supporting mission-critical applications that demand reliable group communication, making you a vital asset in any enterprise or service provider environment. Elevate your networking skill set and contribute to the seamless operation of high-demand network services with this specialized Cisco training.

Duration	2 hours
Level	Intermediate
Vendor	Cisco

COURSE CURRICULUM

01 Module 1: Multicast Fundamentals and IGMP

- Introduction to Multicast (Unicast vs. Broadcast vs. Multicast)
- Multicast IP Addressing and MAC Addressing
- Multicast Applications and Use Cases
- Internet Group Management Protocol (IGMP) Versions (v1, v2, v3)
- IGMP Snooping Configuration and Verification
- Troubleshooting Basic IGMP Issues

02 Module 2: Protocol Independent Multicast (PIM) - Dense Mode

- PIM-DM Concepts and Operation
- PIM-DM Flood-and-Prune Mechanism
- Configuring PIM-DM on Cisco Routers
- Verifying PIM-DM State and Forwarding
- PIM-DM Pruning and Grafting Processes

03 Module 3: Protocol Independent Multicast (PIM) - Sparse Mode

- PIM-SM Concepts and Operation
- Rendezvous Point (RP) Roles and Functions
- Configuring Static and Dynamic RPs (Auto-RP, BSR)
- Shared Trees (RPT) and Source Trees (SPT)

- Configuring and Verifying PIM-SM

04 Module 4: Advanced PIM and Source Specific Multicast (SSM)

- Source Specific Multicast (SSM) Principles
- Implementing PIM-SSM
- Bidirectional PIM (PIM-BIDIR) Concepts and Configuration
- Anycast RP Deployment
- Inter-domain Multicast with Multicast Source Discovery Protocol (MSDP)

05 Module 5: Multicast Troubleshooting and Best Practices

- Common Multicast Configuration Errors
- Utilizing Cisco IOS-XE Debugging Tools for Multicast
- Key 'show' Commands for Multicast Verification (e.g., 'show ip mroute', 'show ip pim neighbor')
- Multicast Design Considerations and Best Practices
- Multicast Performance Optimization Techniques

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Enterprise Network Engineer (Specializing in Media & Collaboration)**
- > **Service Provider Network Operations Specialist (Focused on IPTV & Content Delivery Networks)**
- > **Senior Network Administrator (Responsible for Complex Multicast Deployments)**

FREQUENTLY ASKED QUESTIONS

Q: What specific hands-on skills will I acquire in implementing Cisco Multicast after completing this course?

This course focuses on practical implementation. You will master configuring IGMP on switches and routers, setting up PIM-DM and PIM-SM on Cisco IOS-XE devices, including static and dynamic Rendezvous Points (RPs) using Auto-RP and BSR. You'll also learn to implement Source Specific Multicast (SSM), understand Bidirectional PIM (PIM-BIDIR), and utilize advanced troubleshooting commands and debugging tools to diagnose and resolve common multicast forwarding issues efficiently.

Q: What are the recommended prerequisites for effectively undertaking the 'Implementing Cisco Multicast' course?

To gain the most from this intermediate-level course, a solid understanding of fundamental networking concepts is highly recommended. This includes familiarity with IP addressing (IPv4 and IPv6), basic routing protocols (OSPF, EIGRP), and switch operation. Prior experience or certification equivalent to Cisco CCNA would provide an excellent foundation for understanding the advanced topics covered in multicast implementation.

Q: How does proficiency in implementing Cisco Multicast translate into career advancement or specialized roles within an IT organization?

Mastering Cisco Multicast is a niche and highly valued skill, crucial for environments with high bandwidth and real-time communication needs. It directly prepares you for roles such as a Network Engineer specializing in unified communications, video delivery, or financial trading systems. It also enhances the profile of Senior Network Administrators

and Solutions Architects, enabling them to design, implement, and maintain scalable networks for applications like IPTV, video conferencing, and large-scale data distribution, setting you apart as an expert in network optimization.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

Location

1st Flr, ICEA Building
Kenyatta Ave, Nairobi

Email

info@computer-pride.co.ke

Phone

+254 705 900 900

www.computer-pride.co.ke