

دوره ICM سیسکو | Implementing Cisco Multicast v۳.۰

یادگیری چگونگی طراحی، پیاده سازی و عیب یابی در شبکه های IP multicast-enabled

مروری بر دوره

In this course, you will learn how infrastructures are multicast enabled to support the efficiency of multicast business applications and services. Learn to identify Cisco products and protocols required to implement multicast solutions in both local and wide area networks within your enterprise and beyond. You will implement services at each layer of the network to obtain membership to multicast groups in a working environment. Our hands-on labs will give you access to several multicast applications and troubleshooting tools.

آنچه در این دوره خواهید آموخت

- IP multicast application types
- Basic model of IP multicast
- IP multicast addressing
- Multicast Distribution Trees and protocol types
- Reporting group membership
- Multicast MAC-layer addresses and switch forwarding
- IGMP snooping implementation
- PIM dense mode configuration and troubleshooting
- PIM sparse mode configuration and troubleshooting
- Source specific multicast
- Bidirectional PIM

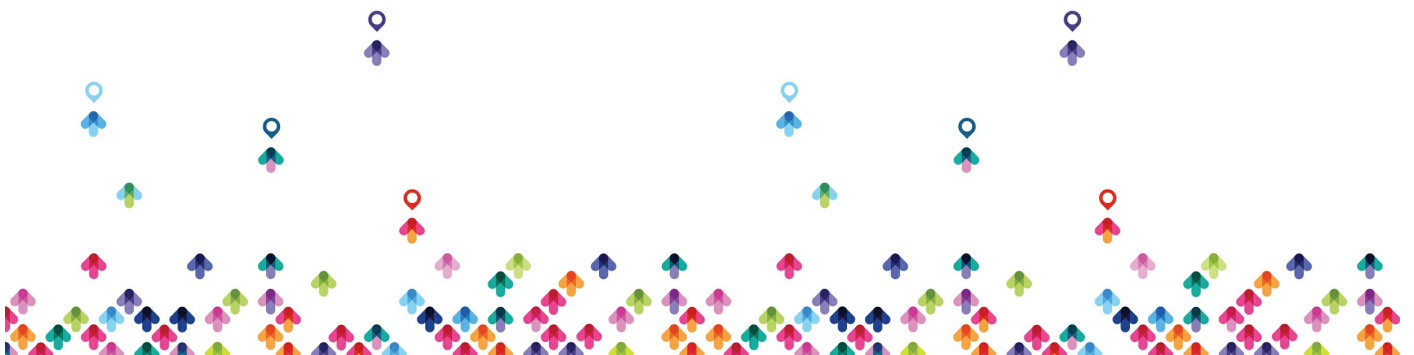


- Configuring redundant rendezvous points using Anycast MSDP, Auto RP, or BSR
- Combining Anycast RP and Auto-RP
- Multicast scoping including using administratively scoped zones
- Multicast security, high availability, and reliability
- Multicast over NBMA networks
- Tunneling multicast over unicast networks using GRE
- DMVPN tunneling with multicast over unicast networks using mGRE and NHRP
- DMVPN security adding IP Sec to mGRE, NHRP and multicast
- Multicast with VPNs and MPLS
- IP Security for MPLS Group Encrypted Transport VPN (GET VPN)
- Interdomain multicast with MBGP and MSDP configuration

سرفصل ها

۱. IP Multicast Foundation

- Overview and Outline
- Chapter Objectives
- IP Multicast Benefits and Caveats
- IP Multicast Application Types
- The Basic Model of IP Multicast
- IP Multicast Addressing
- Multicast Sessions - Directory Services
- Summary
- Review Questions



۲. Function of a Multicast Network

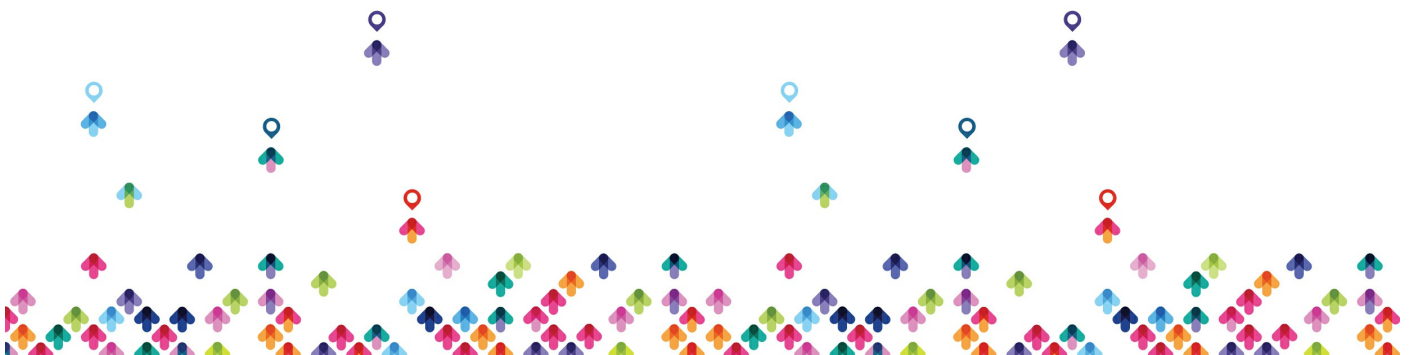
- Overview and Outline
- Chapter Objectives
- Functions of Multicast-Enabled Networks
- Multicast Distribution Trees and Protocol Types
- Reporting Group Membership
- Summary
- Review Questions

۳. Multicast LAN Switch Operation

- Overview and Outline
- Chapter Objectives
- Multicast MAC-Layer Addresses and Switch Forwarding
- Constraining Multicast Streams on LAN Switch Ports
- IGMP Snooping Implementation
- Summary
- Review Questions

۴. PIM Dense Mode

- Overview and Outline
- Chapter Objectives
- PIM Dense Mode Overview
- PIM Dense Mode Details
- PIM Dense Mode Configuration and Troubleshooting



- Summary
- Review Questions

۵. PIM Sparse Mode

- Overview and Outline
- Chapter Objectives
- PIM Dense Sparse Overview
- PIM State
- PIM Packet Types
- PIM SM Joining
- PIM SM Registering
- PIM SPT-Switchover
- PIM SM Pruning
- PIM Sparse Mode Configuration and Troubleshooting
- Summary
- Review Questions

۶. PIM-SM Variants

- Overview and Outline
- Chapter Objectives
- Source Specific Multicast
- Bidirectional PIM
- Bidirectional PIM Basic Configuration
- Bidirectional PIM Designated Forwarders
- Bidirectional PIM Mroute Forwarding State (*, G)



- Bidirectional PIM Phantom BiDir RPs
- Summary
- Review Questions

۷. Redundant Rendezvous Points

- Overview and Outline
- Chapter Objectives
- Configuring Redundant Rendezvous Points Using MSDP
- Redundant RP Configuration and Recommendations
- Configuring Redundant Rendezvous Points Using Auto RP
- Configuring Redundant Rendezvous Points Using BSR
- Combining Anycast RP and Auto-RP
- Tuning RP Operations
- Summary
- Review Questions

۸. Administrative Scoping and Filtering of Multicast

- Overview and Outline
- Chapter Objectives
- Multicast Scoping
- Using Administratively Scoped Zones
- Summary
- Review Questions

۹. WAN, VPN, and MPLS for Multicast



- Overview and Outline
- Chapter Objectives
- Multicast over NBMA Networks
- Tunneling Multicast over Unicast Networks
- Multicast with VPNs and MPLS
- DMVPN Tunneling with Multicast over Unicast Networks using mGRE and NHRP
- Multicast with VPNs and MPLS
- Summary
- Review Questions

۱۰. Security, High Availability, and Reliability

- Overview and Outline
- Chapter Objectives
- Advanced Multicast Engineering - High Availability
- What is Reliable IP Multicast?
- Advanced Multicast Engineering - Security
- DMVPN Security adding IP Sec to mGRE, NHRP, and Multicast
- IP Security for Multicast over MPLS Group Encrypted Transport VPN (GET VPN)
- Summary
- Review Questions

۱۱. Interdomain Multicast with MBGP and MSDP

- Overview and Outline



- Chapter Objectives
- Basic Overview Interdomain Multicast Routing
- MBGP Configuration
- MSDP Configuration
- Summary
- Review Questions

Appendix A. Cisco Security Appliance Command

Appendix B. PGM Configuration

Appendix C. MSDP RPF Rules

مخاطبان دوره

- Engineers responsible for designing, implementing, and troubleshooting IP multicast-enabled networks
- IT personnel who may implement streaming voice/video/data services in an enterprise, including ISPs and those in financial service enterprises, the health care industry, or cable TV companies
- Those preparing for the CCIE practical exam

پیش نیازها

- Experience with and ability to configure Cisco routers and LAN switches
- ICND۱
- ROUTE is helpful but not required



- Knowledge of the Windows XP or later operating system is helpful but not required
- ROUTE - Implementing Cisco IP Routing v۲.۰
- ICND۱ v۳.۰ - Interconnecting Cisco Networking Devices, Part ۱

