

Course Description

This course provides information that will help you plan and build secure, reliable and scalable access networks using Calix products. It covers all aspects of access network design from physical topologies to network bandwidth requirements. This course will help you prepare for the Calix Ethernet Access Network Specialist certification exam.

Objectives

- Describe the basic operation of an Ethernet network.
- Identify the role of each component in an access network
- Describe the Physical and Logical Topologies used in an access network
- Describe the Layer 2 Topology Protocols used in an access network
- Describe the Layer 2 features used to manage and protect the access network
- Describe the services provided by an access network (voice, video, data, business)
- Know where to find Calix Resources.

Who should attend?

- Technicians and engineers who plan, design, manage, maintain, troubleshoot, and configure Ethernet access networks
- Candidates for the *Ethernet Access Network Specialist* certification exam

Prerequisite Training and Skills

- Basic knowledge of telecommunications and computer networking

Training Resources in My Calix

- [Learning Solutions](#)
- [Certifications](#)

Delivery Mode

This interactive online eLearning course consists of content delivered as video clips, simulations, demonstrations, and other self-paced formats. Learners are prompted to interact with the content as they progress through the course. Calix eLearning courses are often accompanied by voice-over audio. To get the most out of your learning experience, Calix recommends accessing your eLearning course through Chrome or Firefox.

Course Duration: 3 ½ hours

Lessons		Topics
01	Access Network Overview	<ul style="list-style-type: none"> Components in an Access Network Access Network Design
02	Ethernet Fundamentals	<ul style="list-style-type: none"> OSI Basic Reference Model Ethernet Overview Basic Networking Ethernet Frame MTU MAC Addressing Bridges and Switches VLANS Interfaces Layer 2 Access Networks
03	Network Transport	<ul style="list-style-type: none"> Network Transport Overview Rapid Spanning Tree Protocol Ethernet Ring Protections Switching (ERPS) G.8032 Network Topologies
04	Subscriber Connections	<ul style="list-style-type: none"> Internet Protocol Version 4 Addressing Address Resolution Protocol (ARP) Dynamic Host Configuration Protocol (DHCP) Point-to-Point Protocol (PPP)
05	Managing Layer 2 Traffic	<ul style="list-style-type: none"> Quality of Service VLAN Models Subscriber Edge Models
06	Securing Subscriber Connections	<ul style="list-style-type: none"> IEEE 802.1X Port Authentication Broadcast Control Layer 2 Access Control List/Match List

Lessons	Topics
	MAC Address Per Port MAC Forced Forwarding DHCP Security
07 Video Services	IPTV Overview Multicast Internet Group Management Protocol (IGMP) Multicast VLAN Registration
08 Voice Services	VoIP Introduction H.248 SIP MGCP
09 Business Services	Metro Ethernet Forum Transparent LAN Psuedowire End-to-End Emulation Mobile Backhaul
10 Using Calix Resources	Calix.com My Calix Calix Academy Command Center / Calix Cloud