

Course Description

This course provides an overview of the best practices to be followed when designing Layer 2 Ethernet Access Networks using Calix products. It is designed for network planning engineers, CO technicians and support personnel responsible for network design, equipment turn-up, service configuration, and maintenance. Following these guidelines will ensure optimum network performance and reliability is achieved and is scalable from a small deployment to the full capacity of an access network. This course will also help prepare you for the Calix E-Series Professional certification exam.

Objectives

- Design reliable, resilient, scalable residential Layer 2 Ethernet access networks.
- Design a Quality of Service plan to effectively manage and prioritize traffic for subscriber services.
- Implement security features to protect the network from malicious traffic originating from subscribers.
- Calculate network capacity to provide optimal performance and scalability.
- Analyze existing network designs and identify ways to improve performance.
- Know where to find Calix Resources.

Who should attend?

- Engineers and Technicians who plan, design and configure Ethernet access networks
- Candidates for the *E-Series Professional* certification exam

Software Release

This course is based on:

- E7 Release 2.4

Prerequisite Training and Skills

- Must complete the following exams: Pass the Ethernet Access Network (EAN) Specialist exam and Any 2: E7 GPON Specialist, E7 Active Ethernet Specialist, or E7 Copper Access Specialist.

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 Introduction	Best Practices Overview
02 Access Network Overview	Service Provider Network Access Network Customer Premise Equipment Access Nodes Transport Network
03 Network Topology Design	Physical /Logical Topologies Network Design Options Topology Protocols Link Aggregation Groups
04 Managing Layer 2 Traffic	Quality of Service Subscribe Edge Models VLAN Models Video Traffic Distribution Dynamic Host Configuration Protocol Layer 2 Access Control/Match List Address Resolution Protocol (ARP) MAC Forced Forwarding Split Horizon

Lessons	Topics
	Dynamic DNS and DNS Host Mapping Firewall
05 Planning Network Resources	MAC Table Characteristics MAC ID Planning Bandwidth Planning Topology Design Impact on Bandwidth Subscriber Profiles Calculating Bandwidth
06 Analyze Reference Networks	Calix Reference Networks Network Documentation Backup and Restore
07 Using Calix Resources	Command Center Calix Resource Center Calix Community