

Cisco ACI Design and Deployment

This is a four-day instructor-led program designed for engineers who will be implementing and managing the Cisco ACI solution. This is a hands-on course in which attendees will bring-up and using ACI constructs deploy applications on an ACI fabric.

Course Objectives

After this course you should be able to understand:

- ACI Concepts and Architecture
- Describe ACI hardware components
- Application Policy Infrastructure Controller (APIC)
- Fabric bring up and Operations
- Application Deployment using ACI constructs
- VMM domain (VMware) Integration
- Programmability features available on ACI
- Describe Integrating L4-7 services
- ACI connectivity to external (L2/L3) networks
- Programmability features of ACI for DevOps

Prerequisites

The knowledge and skills that you must have before attending this course are as follows:

- L2 and L3 Networking Concepts
- Familiarity with Server Virtualization
- VMware Administration and Networking (vSwitch, DVS) Concepts
- L4-7 Services Concepts
- Familiarity with Cisco UCS

Who should attend

The primary audience for this course is as follows:

- Data Center Architects
- Cloud Infrastructure Architects
- Network Engineers
- System Administrators
- Storage Administrators

Course Content

- **Module 1: ACI Overview**
 - SDN Primer
 - ACI Overview and Terminology
 - What is ACI trying to solve
- **Module 2: ACI Fabric Switches**
 - Nexus 9000 Hardware Overview
 - Hardware Installation
- **Module 3: ACI Policy Model**
 - Understanding the ACI Policy Model
 - Enforcing Policy through Contracts
- **Module 4: Application Policy Infrastructure Controller (APIC)**
 - APIC Software and Hardware Architecture
 - Fabric Discovery and Initialization
 - OpFlex – Declarative policy information model
 - APIC Northbound API
 - APIC GUI / CLI Familiarization
- **Module 5: Fabric Forwarding and Operations**
 - Fabric Overview
 - Fabric Addressing
 - Endpoint Learning and Lookup
 - Fabric Forwarding
 - Fabric Innovations
- **Module 6: ACI Hypervisor Integration**
 - ACI VMware Integration
 - Microsegmentation
 - ACI Hyper-V Integration
- **Module 7: Fabric and Access Policies**
 - Fabric Policies
 - Access Policies
- **Module 8: APIC APIs and Open Source Initiatives**
 - ACI APIs Overview
 - REST API

- UCS Director Integration
 - Integration with OpenStack
- **Module 9: Connecting to External Networks**
 - Concept of Inside and Outside
 - Connecting to external Layer-2/3 Networks
- **Module 10: Integrating L4-7 Services with ACI**
 - Service Insertion Overview
 - Device Packages
- **Module 11: ACI 2 Day Operations**
 - Monitoring
 - Management
 - Troubleshooting

- **Labs**
 - ACI Fabric Discovery and GUI Familiarization
 - Application Network Profile Creation (GUI)
 - Application Network Profile (CLI)
 - VMM Integration with VMware
 - Extending EPG to Bare Metal Host Shared Services
 - Programability Labs
 - Configuring external L2 connection
 - Configuring external L3 connection
 - Service Graph
 - Day 2 Ops