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Learning Style: Virtual Classroom

Technology: Cisco

Difficulty: Beginner

Course Duration: 5 Days

Implementing Cisco Application Centric Infrastructure - Advanced (DCACIA) v1.2



About this course:

The **Implementing Cisco Application Centric Infrastructure–Advanced (DCACIA)** v1.0 course shows you how to integrate the capabilities of the Cisco® Nexus® 9000 Series Switches in Cisco Application Centric Infrastructure (Cisco ACI®) mode. You will learn how to configure and manage Cisco Nexus 9000 Series Switches in ACI mode providing enhanced management and policy framework,

along with the protocols used in the underlying fabric. The course also covers how to use Cisco ACI as a policy-driven solution that integrates software and hardware, and how to implement Cisco ACI Multi-Pod and Multi-Site deployments. You will gain hands-on practice implementing advanced ACI capabilities such as Rogue Endpoint Feature, Transit Routing, VRF Route Leaking, Contracts and Zoning Rules, Policy Based Redirect to Layer 4–7 Service Node, Multi-Pod Fabric and Cisco ACI®Multi-Site Orchestrator.

This course will help you:

- Learn best practices for implementing and managing Cisco Nexus 9000 Series Switches in Cisco ACI mode
- Leverage the integration software and hardware solutions to expand the capabilities of data center and cloud networks
- Maximize the benefits of an application-centric approach to deliver automation and flexibility in IT services, and automate fabric deployment and configuration

Course Objective:

After taking this course, you should be able to:

- Explain Cisco ACI advanced fabric packet forwarding
- Explain advanced ACI policy and tenant configuration
- Describe Cisco ACI Multi-Pod deployment
- Explain the details and consideration of implementing and integrating traditional network with Cisco ACI
- Describe Cisco ACI Service Graph Policy-Based Redirect (PBR)
- Describe Cisco ACI Multi-Site deployment

Audience:

- Network designers
- Network administrators
- Network engineers
- Systems engineers
- Data center engineers
- Consulting systems engineers
- Technical solutions architects
- Field engineers
- Server administrators
- Network managers
- Storage administrators
- Cisco integrators and partners

Prerequisite:

To fully benefit from this course, you should have the following knowledge and skills:

- Basic understanding of Cisco ACI
- Understanding of Cisco data center architecture
- Familiarity with virtualization fundamentals

These are the recommended Cisco learning offerings that may help you meet these prerequisites:

- **Implementing Cisco Application Centric Infrastructure (DCACI) v1.0**
- **Implementing and Administering Cisco Solutions (CCNA®) v1.0**
- **Understanding Cisco Data Center Foundations (DCFNDU) v1.0**

Course Outline:

Cisco ACI Advanced Packet Forwarding

- Packet Forwarding Between Leaf Switches
- Endpoint Learning
- Network Interface Card (NIC) Teaming to ACI Fabric
- Endpoint Learning Optimizations
- Endpoint Loop Protection
- Rogue Endpoint Control

Using Advanced Cisco ACI Policy and Tenant Configuration

- Layer 3 Outside Transit Routing
- Using Tenant Common for Shared Services
- Using Virtual Routing and Forwarding (VRF) Route Leaking for Shared Services
- Using Layer 3 Outside configuration policy (L3Out) VRF Route Leaking for Shared Services
- Detailed Contract Architecture with pcTag
- Contract with vzAny
- Contract Preferred Group

Implementing Traditional Network in Cisco ACI

- Integrating Switched Network with Cisco ACI
- Migrating Existing Switched Network to Cisco ACI
- Network- vs. Application-Centric Deployment Models

Cisco ACI Service Graph PBR

- Service Graph PBR Overview
- PBR End-to-End Packet Flow
- Service Graph PBR Requirements and Topologies
- Service Graph PBR Tracking Options

Cisco ACI Multi-Pod Deployment

- Cisco ACI Multi-Pod Overview
- Inter-Pod Network Overview
- Multi-Pod Provisioning and Packet Flow Between Pods
- Connectivity to External L3 Networks
- Service Node Integration Considerations
- Service Graph Considerations

Cisco ACI Multi-Site Deployment

- Cisco ACI Multi-Site Overview
- Cisco ACI Multi-Site Orchestrator
- Inter-Site Network Overview
- Tenant Configuration Deployment from Multi-Site Orchestrator (MSO)
- Packet Flow Between Sites
- Multi-Site Stretched Components
- Multi-Site vs Multi-Pod Comparison

Lab outline

- Examine Local and Remote Endpoint Learning
- Verify Bounce Entries
- Validate IP Learning
- Mitigate IP and MAC Flapping with the Rogue Endpoint Feature
- Enable Transit Routing
- Implement VRF Route Leaking
- Configure VRF Route Leaking with L3Out
- Examine Contracts and Zoning Rules
- Configure Policy-Based Redirect to Layer 4–7 Service Node
- Deploy Multi-Pod Fabric
- Provision Policies with Cisco ACI Multi-Site Orchestrator

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