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Learning Style: Virtual Classroom

Technology: Cisco

Difficulty: Intermediate

Course Duration: 3 Days

Cisco ACI Migration (ACIMIG)

About this course:

Cisco ƒ??s experience and knowledge gained from typical ACI clients ƒ?? compelling events and expected business outcomes proves that users can adopt different transition paths to ACI. In this 3-day Cisco ACI training course, we will discuss specifically how to migrate to ACI using two different methods: Network

mode and Application mode. In addition, the ACI learning class will discuss virtualization migration, fabric path migrations, and other migration topics. It is recommended that students have a basic, working understanding of Cisco ACI to fully grasp the ACI course content. Learn more about course objectives and QuickStartƒ??s ACI classes below!

Course Objective:

Upon completing this course, the learner will be able to meet these overall objectives:

- Discuss options available to migrate servers and applications to ACI
- Better understand the end requirements and map the right ACI migration mode(s)
- Articulate the high-level steps of a selected ACI migration mode
- Understand the applicability of migration modes to your business outcomes

Audience:

The primary audience for this course is as follows:

- People interested in Cisco ACI Migration

Prerequisite:

The knowledge and skills that a learner should have before attending this course are as follows:

- Familiarity with Cisco ACI

Course Outline:

Module 1: ACI Migration

- Network Centric
    - ACI Deployment as a L2 Fabric
    - ACI Deployment as a L3 Fabric
    - Network Centric ACI Migration
    - Nexus 9000 Migration from Standalone to ACI mode
- Hybrid (Network and Application Centric) ACI Migration
    - Virtual Environment Migration
    - ACI Virtual Migration Assistant
- Application Centric
    - ACI Deployments for Known Application Profiles
    - ACI Approach to Application
    - Operational Challenges
    - Application Profiling Methodology
    - Advanced Services: Application Profiling for ACI

Module 2: Hardware and Software Migration

- Repurposing existing hardware
- Determine hardware requirements for migration
- Migration from NXos to ACI on a Nexus 9000
- Reverting to NXoS
- Migrating from VMware DVS to AVS
- Migrating from Nexus 1000V to AVS

Module 3: Multi-POD ACI Deployments

- Connecting Two ACI Fabrics
- Single Fabric Scenarios
    - Multi-Site (Stretched) Fabric
    - Synchronization of Fabric Policy

Module 4: Migrating a Brownfield Network to ACI

- L2 Connectivity with VLAN to EPG Static Mapping
- Virtual Workloads Migration Considerations
- Default Gateway Migration Considerations
- L3 Routing Between Brownfield and Greenfield Networks
- Migration of L4-L7 Network Services

Module 5: Managing Flooding Within the Fabric

- Multi-Destination Protocol Traffic
- Configure ACI Bridge Domain settings
- Migrate Workloads
- Complete the Migration

Module 6: Managing the Default Gateway

- Migrating Default Gateway to the ACI Fabric
- Extension and Connecting
- Gradual Migration
- Simple Policy During Migration - Any-to-Any Configuration
- Dynamic ACL’s
- vPC & ACI Co-Existence

Module 7: L4-L7 Migration

- ACI Service Insertion via Policy
- Automation for Service Insertion and Configuration
- Service Automation Through Device Package
- L4-7 Service graph with “unmanaged” device
- Standard Architecture with Services
- Services Switch

Module 8: Layer 3 Migration

- Migrating the Connectivity to the Core
- ACI Routing Capabilities
- Route Export and External EPG Configuration
- VPC and Routing Protocols

Module 9: Migrating WAN and DCI to ACI

- Single Fabric (Multi-Site (Stretched) Fabric)
- Integration of Stretched ACI Fabric with LISP
- Integrating with OTV
- Same Pervasive GW IP & MAC on independent fabrics
- Multi-Site Leveraging IP Based EPG
- mBGP EVPN - Ethernet VPN
- Multi-Fabric Scenarios
    - Extending BGP VXLAN to the PE
    - Multi-Pod +ASR9K and N7K Border Leaf

Module 10: Migrating Virtual Switching

- ACI Provides Automated Integration for all workloads
- VMWare Integration 5.1, 5.5, 6.x, vCenter Plugin and vRealize
- Microsoft Interaction with ACI
- Openstack and OVS Integration with ACI

Module 11: Application Virtual Switch

- Hypervisor Integration with ACI APIC
- VMWare Integration
- ACI Hypervisor Integration – VMware DVS/vShield
- Application Virtual Switch with OpFlex in ACI Fabri
- Extending ACI to Existing Virtual & Physical Networks
- Remote VTEP (Virtual) via AVS
- Hypervisors vs. Linux Containers
- Docker and ACI

Module 12: FabricPath to ACI Migration

- Advantages to Adopting ACI over FabricPath
- Initial Design Considerations
- Migration Strategy
- Infrastructure Deployment Considerations
- Migration Scenario 1
- Migration Scenario 2

Lab Outline

- Lab 1: Nexus 9000 - Standalone to ACI Conversion and back
- Lab 2: Configure Basic Network Constructs
- Lab 3: Migrating to AVS – Install an AVS
- Lab 4: Client Scenario A - build a migration strategy

- Lab 5: Client Scenario B - build a migration strategy
- Lab 6: Configure Communication to an existing Layer 3 Network
- Lab 7: Configure Communication to an existing Layer 2 Network
- Lab 8: Create EPGs and BDs corresponding to VLANs in the existing infrastructure.
- Lab 9: Enable flooding on ACI BDs during the migration.
- Lab 10: Endpoint Migration and verification
- Lab 11: Bridge Domain Configuration and Gateway Migration
- Lab 12: Application Network Profiler (ANP) Tool
- Lab 13: Create EPGs and BDs based on the ANP tool
- Lab 14: 3rd party Tools - Citrix NetScaler ACI Migration Tool