



ویستا فن آوری فردا

مشاوره، اجرا، تامین و ارائه تجهیزات
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1-VDCs

Virtual Device Contexts (VDCs)

Implementing VDCs

Allocating VDC Interfaces

Limiting VDC Resources

Moving Between VDCs & VDC Management

VDC User Rights, High Availability & Verification

2-Nexus Fabric Extenders (FEX)

Fabric Extenders [FEX]

Nexus 2000 FEX Overview

FEX Configuration, FEX and STP

Cisco Integrated Management Controller

Using the Cisco Integrated Management Controller [CIMC]

FEX Configuration

Configuring Fabric Extenders

vPC and FEX Design Variations

Host vPC & Fabric vPC

Enhanced vPC

3-Nexus Virtual Port Channels (vPC)

Introduction

Virtual Port-Channels (vPC) Overview

Implementing Virtual Port-Channels in NX-OS

How MLAG Works

vPC High Level Components

NX-OS vPC Verifications

Implementing vPC

Back-to-Back vPC



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vPC Peer Switch
vPC Failure Detection & Recovery
vPC Failure Detection & Recovery Overview
Correct vPC Failure Order of Operations
vPC Initialization Order of Operations
vPC Consistency Check
vPC Orphan Ports
vPC Peer Link Failure
Peer Keepalive & Peer Link Fate Sharing
Peer Keepalive & Peer Link Path Diversity
vPC Peer Link Failure & Orphan Isolation
vPC Peer Link Failure & Northbound Routing
vPC & FHRPs
vPC Peer Gateway

4-Nexus FabricPath
FabricPath Overview
3 Tier Design Issues Review
FabricPath
Implementing Basic FabricPath
FabricPath Configuration
FabricPath Verifications
FabricPath and STP Interaction
FabricPath and STP Interaction
FabricPath and STP Traffic Engineering
vPC+
Anycast HSRP
FabricPath Multi-Topology Routing
Traffic Engineering with FabricPath IS-IS



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Implementing FabricPath IS-IS MTR

FabricPath Features

FabricPath Multidestination Trees

Modifying & Verifying MDT Election

FabricPath Authentication

Implementing FabricPath Authentication

FabricPath IS-IS Overload Bit

BFD & over FabricPath

5-Overlay Transport Virtualization (OTV) on NX-OS

OTV Course Overview

Why Use OTV?

OTV vs Other DCIs

How OTV Works

OTV Terminology

OTV Control Pane

OTV Data Plane & Adjacency Server

Configuring OTV

OTV Prerequisites

OTV Order of Operations

Verifying OTV

Common OTV Verifications

OTV with Multicast Transport

OTV with Unicast Transport

OTV with Unicast Transport Adjacency Server Topology

OTV with Unicast Transport Adjacency Server Configuration

OTV High Availability

OTV HA Considerations & AED Node High Availability

Recovering from AED Node Failure

Tuning AED Node Failure Detection



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Layer 3 Multicast HA for AEDs & Adjacency Server HA
OTV & First Hop Redundancy Protocols (FHRP) Localization
Locator/ID Separation Protocol (LISP)
Locator/ID Separation Protocol (LISP) Overview
What Is LISP?
Why LISP?
LISP Terminology
Implementing LISP on Cisco NX-OS
ACI to VXLAN BGP EVPN Over OTV with LISP Mobility

6-Implementing Unified Computing System (UCS)
UCS Course Overview
Implementing UCS Introduction
UCS Blade Server Components
High Level Components
Basic Initialization
UCS Manager Initialization
Initialization Workflow
UCS - OS Installation to Remote Storage
UCS - OS Installation to Remote Storage
Remote Storage Variations & Virtual Media
UCS LAN Connectivity
Blade to 10M Pinning & UCS FI Cluster Links
Logical View & VN-Link vs. VN-Tag
LAN Connectivity & LAN Connectivity - EHM
LAN Connectivity Example
UCS Disjoint Layer 2 LAN Connectivity
Disjoint Layer 2 Solutions
UCS LAN Connectivity - Ethernet Port Channels
Hardware Topology - UCS B Series



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UCS LAN connectivity fabric Failover
Logical View - Fls, 10Ms, & Blades
UCS LAN Connectivity vNIC Templates
LAN Connectivity vNIC Templates
UCS Service Profile Templates
UCS Server Pools & Qualification Policies
UCS Server Pools
UCS Address Pools
UCS Policies
UCS Firmware Management
UCS Backup & Restore

7-Storage Area Networking (SAN) Switching on NX-OS
Storage Area Networking
Storage Area Networking Overview
Storage Area Networking Hardware Components
Storage Area Networking Hardware Components
Cisco Storage Platforms
Host bus Adapters (HBAs)
Fibre Channel Protocol
Fibre Channel Overview
Fibre Channel Port Types
Fibre Channel Addressing, FC World Wide Names, and FC Identifiers
Fibre Channel Domain IDs and Routing
Fibre Channel Logins, FLOGI, PLOGI, & PLRI
Zoning
Virtual SANs (VSANs)
SAN Port Channeling
UCS C Series and B Series SAN Connectivity



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UCS C Series and B Series SAN Connectivity

Unified Ports on Nexus 5000 and UCS B Series Fabric Interconnects FCoE over Enhanced vPC
Overview

FCoE over EvPC Configuration

SAN Port-Channels

FCoE on UCS B Series

Unified Port-Channels

Multihop FCoE

Zoning & Device Aliases

8-Virtual Extensible LAN (VXLAN) on Nexus NX-OS

Course Overview

VXLAN Overview

VXLAN Terminology

VXLAN Encapsulation

Basic VXLAN Workflow

VXLAN Configuration

VXLAN Configuration Prerequisites

VXLAN Flood & Learn on NX-OS

Implementing VXLAN BGP EVPN on NX-OS

VXLAN BGP EVPN Prerequisites

VXLAN BGP EVPN Configuration Steps

VXLAN BGP EVPN Verification

VXLAN Configuration & Verification Review

VXLAN BGP EVPN Configuration & Verification Review

Inter-VXLAN Routing

Asymmetric vs. Symmetric IRB

How Symmetric IRB Works

vPC & VXLAN BGP EVPN



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vPC & VXLAN BGP Traffic Flow Problems

vPC Anycast VTEP

Configuring NVE Peer-Link-VXLAN

VXLAN Underlay Fabric Unicast High Availability

Bidirectional Forwarding Detection (BFD)

Bidirectional Forwarding Detection (BFD) Overview

Configuring BFD on NX-OS

VXLAN Underlay Fabric Multicast High Availability

VXLAN Underlay Fabric Convergence & Tuning PIM Convergence

PIM RP Redundancy

Anycast RP

Phantom RP

VXLAN BGP EVPN External Layer 3 Connectivity

External Routing for VXLAN BGP EVPN, Border Leafs & Considerations

External Routing for VXLAN BGP EVPN Configuration

9-Application Centric Infrastructure (ACI)- Network Centric Mode

Course Overview

ACI Introduction

What is ACI?

Nexus 9000 ACI Switches

APIC Controllers

ACI Network Topology

Class ACI Topology

Managing the ACI Fabric & ACI Behind the Scenes

ACI Fabric Initialization

Initializing Fabric & Connecting to APIC via CIMC SOL

Navigating the APIC GUI

Discovering The Fabric & Viewing the Topology from the GUI



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Connecting to Nodes & Verifying Underlay Routing from CLI
ACI Virtual Port Channels (vPC)
Configuring Fabric Access Policies
Creating and Verifying a vPC
ACI Tenants
Tenant Overview and Hierarchy
Tenant Components
Tenant Hierarchy
Layer 2 Access Ports on ACI
ACI Object Workflow
Inter EPG Communication in ACI
Inter End Point Group (EPG)
Layer 2 Trunk Ports on ACI (L2Out)
Extending Bridge Domain Outside ACI
Extending Bridge Domain Outside ACI (L2Out)
Inter EPG Communication with L2out in ACI
STP and L2out
STP and L2out in ACI
Connecting ACI to External Layer3 Networks (L3out)
ACI External Layer 3 Routing with OSPF
ACI External Layer 3 Routing with EIGRP
ACI External Layer 3 Routing with BGP