

[VMNSXTDCICMV]: VMware NSX-T Data Center: Install, Configure, Manage [V3.0]

Length : 5 Days
Delivery Method : Instructor-led (Classroom)

Course Overview

This five-day, fast-paced course provides comprehensive training on how to install, configure, and manage a VMware NSX-TTM Data Center environment. This course covers key NSX-T Data Center features and functionality offered in the NSX-T Data Center 3.0 release, including the overall infrastructure, logical switching, logical routing, networking and security services, micro-segmentation and firewalls, and more.

Access to a software-defined data center environment is provided through hands-on labs to reinforce the skills and concepts presented in the course.

Audience Profile

Experienced system administrators or network administrators

At Course Completion

- Describe VMware Virtual Cloud Network and the NSX-T Data Center architecture
- Describe the NSX-T Data Center components and main functions
- Explain the NSX-T Data Center key features and benefits
- Deploy and configure NSX-T Data Center infrastructure
- Configure layer 2 logical switching and bridging
- Explain the tiered routing architecture and configure gateways
- Configure advanced services such as VPN and load balancing
- Describe the NSX-T Data Center security model with micro-segmentation
- Configure Distributed Firewall and Gateway Firewall to protect east-west and north-south traffic
- Explain advanced security enforcement with URL analysis, IDS, and partner service insertion
- Integrate VMware Identity Manager™ or LDAP with NSX-T Data Center and configure role-based access control
- Describe NSX-T Data Center Federation use-cases and architecture for switching, routing, and security.

Pre-Requisites

This course requires understanding the concepts and topics presented in the following courses:

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- Good understanding of TCP/IP services and network security and working experience with firewalls
- Working experience of enterprise switching and routing

Solid understanding of concepts presented in the following courses:

- VMware Data Center Virtualization Fundamentals
- VMware Introduction to Network Virtualization with NSX
- VMware Network Virtualization Fundamentals

Course Outline

Module 1: Course Introduction

Lessons

- Introductions and course logistics
- Course objectives

Module 2: VMware Virtual Cloud Network and NSX-T Data Center

Lessons

- Introduce VMware's Virtual Cloud Network vision
- Discuss NSX-T Data Center solutions, use cases, and benefits
- Explain NSX-T Data Center architecture and components
- Describe VMware NSXTM product portfolio and features
- Explain the management, control, data, and consumption planes and function

Module 3: Deployment Preparing the NSX-T Data Center Infrastructure

Lessons

- Describe NSX Management Cluster
- Deploy VMware NSXTM ManagerTM nodes on VMware ESXi and KVM hypervisors
- Navigate through the NSX Manager UI
- Explain data-plane components such as N-VDS, transport nodes, transport zones, profiles, and more
- Perform transport node preparation and establish the data center infrastructure
- Verify transport node status and connectivity

Module 4: NSX-T Data Center Logical Switching

Lessons

- Introduce key components and terminology in logical switching
- Describe the function and types of L2 segments
- Explain tunneling and the GENEVE encapsulation
- Configure logical segments and attach hosts using NSX Manager UI
- Describe the function and types of segment profiles
- Create segment profiles and apply them to segments and ports
- Explain the function of MAC, ARP, and TEP tables used in packet forwarding
- Demonstrate L2 unicast packet flow

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- Explain ARP suppression and BUM traffic handling

Module 5: NSX-T Data Center Logical Routing

Lessons

- Describe the logical routing function and use cases
- Introduce the two-tier routing architecture, topologies, and components
- Explain the Tier-0 and Tier-1 Gateway functions
- Describe the logical router components: Service Router and Distributed Router
- Discuss the architecture and function of VMware NSX™ Edge™ nodes
- Discuss deployment options of NSX Edge nodes
- Configure NSX Edge nodes and create NSX Edge clusters
- Configure Tier-0 and Tier-1 Gateways
- Examine the single-tier and multitier packet flow
- Configure static routing and dynamic routing
- Enable ECMP on Tier-0 Gateway
- Describe NSX Edge HA, failure detection, and failback modes

Module 6: NSX-T Data Center Logical Bridging

Lessons

- Describe the function of logical bridging
- Discuss the logical bridging use cases
- Compare routing and bridging solutions
- Explain the components of logical bridging
- Create bridge clusters and bridge profiles

Module 7: NSX-T Data Center Services

Lessons

- Introduce the NSX-T Data Center security approach and modelDescribe the micro-segmentation benefits and use cases
- Describe the Distributed Firewall architecture, components, and function
- Configure Distributed Firewall sections and rules
- Describe the Gateway Firewall architecture, components, and function
- Configure Gateway Firewall sections and rules
- Describe URL analysis and distributed intrusion system importance and use-cases.
- Describe the service insertion functionality for east-west and north-south security
- Discuss the integration and benefits of partner security solutions with NSX-T Data Center

Module 8: NSX-T Data Center Services

Lessons

- Describe NSX-T Data Center services
- Explain and configure Network Address Translation (NAT) and NAT 64
- Explain and configure DNS and DHCP services
- Describe the load-balancing function, topologies, components, and use cases
- Configure L4-L7 load balancing
- Discuss the IPSec VPN and L2 VPN function and use cases

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- Configure IPSec VPN and L2 VPN using NSX Manager UI

Module 9: NSX-T Data Center Monitoring

Lessons

- Explain the importance and functionality of VMware NSXTM IntelligenceTM
- Navigate through the NSX Topology UI and identify the various key elements in the UI
- Discuss the importance and use-cases of alarms and events

Module 10: NSX-T Data Center User and Role Management

Lessons

- Describe the function and benefits of VMware Identity Manager in NSX-T Data Center
- Integrate VMware Identity Manager with NSX-T Data Center
- Integrate LDAP with NSX-T Data Center
- Identify the various types of users, authentication policies, and permissions
- Use role-based access control to restrict user access
- Explain the built-in roles in VMware Identity Manager and role assignment to users

Module 11: NSX-T Data Center Federation

Lessons

- Introduce the NSX-T Data Center Federation key concepts, terminology, and use-cases.
- Explain the onboarding process of NSX-T Data Center Federation
- Describe the NSX-T Data Center Federation switching and routing functions.
- Describe the NSX-T Data Center Federation security concepts and routing functions

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