Course Outline

VMware NSX-T Data Center: Design [V3.0] NSXTD3

Course Summary

Description

This five-day course provides comprehensive training on considerations and practices to design a VMware NSX-T™ Data Center environment as part of a software-defined data center strategy. This course prepares the student with the skills to lead the design of NSX-T Data Center offered in the NSX-T Data Center 3.0 release, including design principles, processes, and frameworks. The student gains a deeper understanding of NSX-T Data Center architecture and how it can be leveraged to create solutions to address the customer's business needs.

Objectives

At the end of this course, students will be able to:

- Understand and apply a design framework
- Apply a design process for gathering requirements, constraints, assumptions, and risks
- Analyze existing physical networking and security components, processes, and operations
- Design a VMware vSphere virtual data center to support NSX-T Data Center requirements
- Design a physical network to support network virtualization in a software-defined data center
- Design logical network services
- Design logical security services
- Design a data center rack solution to support scalability and high availability
- Analyze the operational readiness of an organization and perform a skills gap analysis
- Analyze alternative design choices for risk mitigation
- Understand the design and support for NSX-T Data Center infrastructure in a multi data center infrastructure

Topics

- Course Introduction
- Basic Design Concepts
- NSX-T Data Center Architecture and Components
- NSX-T Data Center Design Considerations
- Logical Switching Design
- NSX-T Data Center Edge Design
- Logical Routing Design
- NSX-T Data Center Network Services
- NSX-T Data Center Security Design
- NSX-T Data Center Federation Design
- NSX-T Data Center and Containers

Audience

Network and security architects and consultants who design the enterprise and data center networks and NSX environments.

Prerequisites

Before taking this course, you should have completed the following course:

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

You should also have the understanding or knowledge of these technologies:

- Good understanding of TCP/IP services and protocols
- Knowledge and working experience of computer networking, including:
- Switching and routing technologies (L2-L3)
- Network and application delivery services (L4-L7)
- Knowledge and working experience of VMware vSphere® environments and KVM-based environments

The VMware Certified Professional – Network Virtualization (2020) certification is recommended.

Duration

Five days

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I. Course Introduction
- A. Introductions and course logistics
- B. Course objectives

II. Basic Design Concepts
- A. Process and principles of design
- B. Describe the design process and frameworks
- C. Explain VVD and its importance

III. NSX-T Data Center Architecture and Components
- A. Explain the NSX-T Data Center and Virtual Cloud Network
- B. Describe the NSX-T Data Center architecture and use cases
- C. List the NSX-T Management cluster design considerations

IV. NSX-T Data Center Design Considerations
- A. Explain physical infrastructure design considerations
- B. Explain virtual infrastructure design considerations
- C. List the collapsed management and VMware NSX® Edge™ resources design considerations
- D. Explain dedicated management and NSX Edge resources design

V. Logical Switching Design
- A. Explain the VMware NSX-T™ logical switching design concepts
- B. Describe the traffic flooding concepts

VI. NSX-T Data Center Edge Design
- A. List the NSX Edge VM design considerations
- B. Explain NSX Edge BareMetal design considerations
- C. Describe NSX Edge cluster design
- D. Explain Bridge design considerations

VII. Logical Routing Design
- A. Explain logical router components
- B. Describe multitier routing
- C. Explain IPv6 addressing and routing design concepts
- D. Multi-compute workload domain design considerations
- E. High availability and router placement

VIII. NSX-T Data Center Network Services
- A. Explain the functionality of NAT, Proxy ARP, DHCP, and metadata proxy and design considerations
- B. Describe the load balancer considerations
- C. Explain the VPN design considerations

IX. NSX-T Data Center Security Design
- A. Explain the distributed firewall design concepts
- B. Explain the Gateway firewall design concepts
- C. Describe the security policy methodology

X. NSX-T Data Center Federation Design
- A. Explain the Federation functionality
- B. Explain the design concepts for Federation components
- C. Describe the design involved for Federation networking
- D. Describe the design involved for Federation security

XI. NSX-T Data Center and Containers
- A. Understand VMware Tanzu
- B. Understand NSX-T Data Center for Kubernetes
- C. Understand IPv6 for Kubernetes PODs
- D. Understand NSX-T Data Center design options for VMware Tanzu
- E. Describe NSX-T Data Center design recommendations for VMware Tanzu

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