

VMware NSX-T Data Center: Design

COURSE DETAILS

Course Code:	VM-NSXTD
Delivery Type:	Instructor-Led
Duration:	5 days

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 with VMware vSphere environments and KVM-based environments

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

COURSE CONTENT

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.

COURSE OBJECTIVES

By the end of the course, you should be able to meet the following objectives:

- 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 alternative design choices for risk mitigation
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- Understand the design and support for NSX-T Data Center infrastructure in a multi data center infrastructure
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COURSE OUTLINE

1 Course Introduction

- Introductions and course logistics
- Course objectives

2 Basic Design Concepts

- Describe the principles of design
- Describe the design process and frameworks
- Explain VMware Validated Design and its importance

3 NSX-T Data Center Architecture and Components

- Explain the NSX-T Data Center and Virtual Cloud Network
- Describe the NSX-T Data Center architecture and use cases
- List the NSX-T Management cluster design considerations

4 NSX-T Data Center Design Considerations

- Explain physical infrastructure design considerations
- Explain virtual infrastructure design considerations
- List the collapsed management and VMware NSX® Edge™ resources design considerations
- Explain dedicated management and NSX Edge resources design

5 Logical Switching Design

- Explain the VMware NSX-T™ logical switching design concepts
- Describe the traffic flooding concepts

6 NSX-T Data Center Edge Design

- List NSX Edge VM design considerations
- Explain NSX Edge BareMetal design considerations
- Describe NSX Edge cluster design
- Explain Bridge design considerations

7 Logical Routing Design

- Explain logical router components
- Describe multitier routing
- Explain IPv6 addressing and routing design concepts
- Multi-compute workload domain design considerations

8 NSX-T Data Center Advanced Routing Design

- Explain High Availability and Router Placement
- L3 Multicast design considerations
- Describe VRF Lite and EVPN

9 NSX-T Data Center Network Design

- Explain the functionality and considerations of using NAT, Proxy ARP, DHCP, and metadata proxy
- Describe the load balancer design considerations
- Explain the VPN design considerations

10 NSX-T Data Center Security Design

- Explain the Distributed Firewall design concepts
- Explain the Identity Firewall design concepts
- Explain the Gateway Firewall design concepts
- Describe the security policy methodology

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11 NSX-T Data Center Federation Design

- Explain the Federation functionality
- Explain the design concepts for Federation components
- Describe the design involved for Federation networking
- Review Federation design considerations

12 NSX-T Data Center and Containers

- Understand the integration between NSX-T Data Center and vSphere with VMware Tanzu™
 - Describe how NSX-T Data Center provides networking, load balancing, and security in vSphere for VMware Tanzu
 - Describe VMware Tanzu™ Kubernetes Grid™ Service
 - Understand Tanzu Kubernetes Grid™ cluster networking and load balancing capabilities
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WHO SHOULD ATTEND

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