VMware NSX: Design [V4.x]

Category: Infrastructure & IT Operations | **Vendor:** VMware

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

This five-day course provides comprehensive training on considerations and practices to design a VMware NSX® environment as part of a software-defined data center strategy. This course prepares the student with the skills to lead the design of an NSX environment, including design principles, processes, and frameworks. The student gains a deeper understanding of the NSX architecture and how it can be used to create solutions to address the customer’s business needs.

Product Alignment

- VMware NSX 4.1.0

About This Course

Course Introduction

- Introduction and course logistics
- Course objectives

NSX Design Concepts

- Identify design terms
- Describe framework and project methodology
- Describe the role of VMware Cloud Foundation™ in NSX design
- Identify customers’ requirements, assumptions, constraints, and risks
- Explain the conceptual design
- Explain the logical design
- Explain the physical design

NSX Architecture and Components

- Recognize the main elements in the NSX architecture
- Describe the NSX management cluster and the management plane
- Identify the functions and components of management, control, and data planes
- Describe the NSX Manager sizing options
- Recognize the justification and implication of NSX Manager cluster design decisions
- Identify the NSX management cluster design options

NSX Edge Design

- Explain the leading practices for edge design
- Describe the NSX Edge VM reference designs
- Describe the bare-metal NSX Edge reference designs
- Explain the leading practices for edge cluster design
- Explain the effect of stateful services placement
- Explain the growth patterns for edge clusters
- Identify design considerations when using L2 bridging services

NSX Logical Switching Design

- Describe concepts and terminology in logical switching
- Identify segment and transport zone design considerations
- Identify virtual switch design considerations
- Identify uplink profile and transport node profile design considerations
- Identify Geneve tunneling design considerations
- Identify BUM replication mode design considerations

NSX Logical Routing Design

- Explain the function and features of logical routing
- Describe the NSX single-tier and multitier routing architectures
- Identify guidelines when selecting a routing topology
- Describe the BGP and OSPF routing protocol configuration options
- Explain gateway high availability modes of operation and failure detection mechanisms
- Identify how multitier architectures provide control over stateful service location
- Identify EVPN requirements and design considerations
- Identify VRF Lite requirements and considerations
- Identify the typical NSX scalable architectures

NSX Security Design

- Identify different security features available in NSX
- Describe the advantages of an NSX Distributed Firewall
- Describe the use of NSX Gateway Firewall as a perimeter firewall and as an intertenant firewall
- Determine a security policy methodology
- Recognize the NSX security best practices

NSX Network Services

- Identify the stateful services available in different edge cluster high availability modes
- Describe failover detection mechanisms
- Compare NSX NAT solutions
- Explain how to select DHCP and DNS services
- Compare policy-based and route-based IPSec VPN
- Describe an L2 VPN topology that can be used to interconnect data centers
- Explain the design considerations for integrating VMware NSX® Advanced Load Balancer™ with NSX

Physical Infrastructure Design

- Identify the components of a switch fabric design
- Assess Layer 2 and Layer 3 switch fabric design implications
- Review guidelines when designing top-of-rack switches
- Review options for connecting transport hosts to the switch fabric
- Describe typical designs for VMware ESXi™ compute hypervisors with two pNICs
- Describe typical designs for ESXi compute hypervisors with four or more pNICs
- Differentiate dedicated and collapsed cluster approaches to SDDC design

NSX Multilocation Design

- Explain scale considerations in an NSX multisite design
- Describe the main components of the NSX Federation architecture
- Describe the stretched networking capability in Federation
- Describe stretched security use cases in Federation
- Compare the Federation disaster recovery designs

NSX Optimization and DPU-Based Acceleration

- Describe Geneve Offload
- Describe the benefits of Receive Side Scaling and Geneve Rx Filters
- Explain the benefits of SSL Offload
- Describe the effect of Multi-TEP, MTU size, and NIC speed on throughput
- Explain the available enhanced datapath modes and use cases
- List the key performance factors for compute nodes and NSX Edge nodes
- Describe DPU-Based Acceleration
- Define the NSX features supported by DPUs
- Describe the hardware and networking configurations supported with DPUs

Who Should Attend

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

Prerequisites & Entry Requirements

General Prerequisites:

Before taking this course, you must complete the following course:

- VMware NSX: Install, Configure, Manage [V4.0] (NSXICM4)

You should also have understanding or knowledge of these technologies:

- Good understanding of TCP/IP services and protocols
- Knowledge and working experience of computer networking and security, including:

- Switching and routing technologies (L2 and L3)
- Network and application delivery services (L4 through L7)
- Firewalling (L4 through L7)
- vSphere environments

The VMware Certified Professional – Network Virtualization certification is recommended.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

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

- Describe and apply a design framework
- Apply a design process for gathering requirements, constraints, assumptions, and risks
- Design a VMware vSphere® virtual data center to support NSX requirements
- Create a VMware NSX® Manager™ cluster design
- Create a VMware NSX® Edge™ cluster design to support traffic and service requirements in NSX
- Design logical switching and routing
- Recognize NSX security best practices
- Design logical network services
- Design a physical network to support network virtualization in a software-defined data center
- Create a design to support the NSX infrastructure across multiple sites
- Describe the factors that drive performance in NSX

Skills You Will Learn:

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

- Describe and apply a design framework
- Apply a design process for gathering requirements, constraints, assumptions, and risks
- Design a VMware vSphere® virtual data center to support NSX requirements
- Create a VMware NSX® Manager™ cluster design
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Frequently Asked Questions

Q: What delivery options are available for VMware NSX: Design [V4.x]?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 5-day VMware NSX: Design [V4.x] course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the VMware NSX: Design [V4.x] training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for VMware NSX: Design [V4.x]?

Yes, we provide corporate training, dedicated training, and closed classes for VMware NSX: Design [V4.x]. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: VMware NSX: Design [V4.x], VMware NSX, NSXTD4

Q: Why choose Nexus Human for VMware NSX: Design [V4.x]?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your VMware NSX: Design [V4.x] training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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