VMware NSX: Design [V4.x] (NSXTD4)

ID NSXTD4 **Prix** CHF 3 980,– (Hors Taxe) **Durée** 5 jours

A qui s'adresse cette formation

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

Pré-requis

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.

Objectifs

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

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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

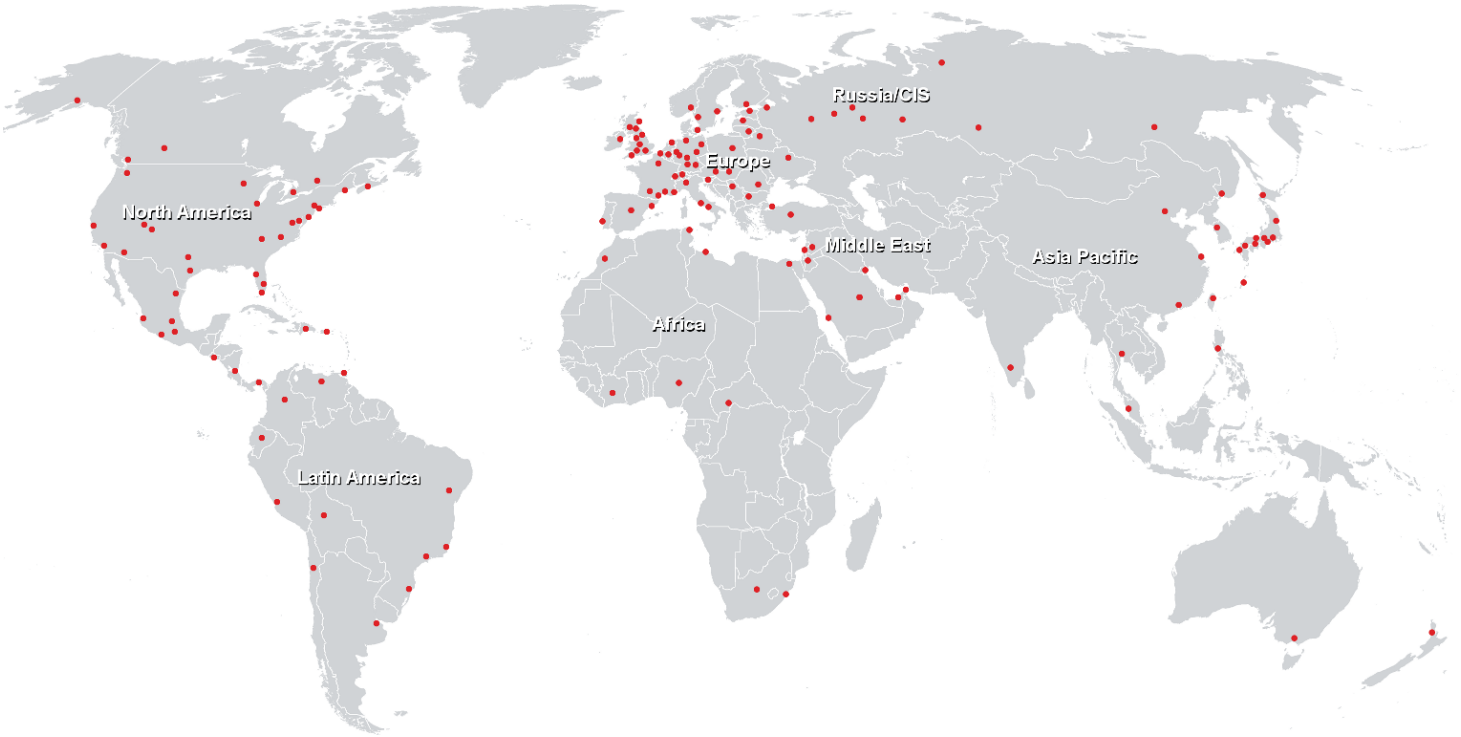
NSX Multilocation Design

- 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

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