

# Course : VMware NSX: Design V4.x (EDU-NSXD4)

Official Course: Preparation for the 3V0-42.23 Exam

*Practical course - 5d - 35h00 - Ref. VN4*

*Price : 4220 € E.T.*

NEW

In this course, you will develop the skills needed to design a VMware NSX® architecture tailored to a software-defined data center (SDDC), by applying design best practices and addressing business and technical requirements.

## Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Analyze business and technical requirements to design a suitable VMware NSX architecture
- ✓ Design the key components of an NSX infrastructure, including NSX Manager clusters, NSX Edge clusters, and logical networks
- ✓ Design a physical and virtual network architecture that meets virtualization, security, and performance requirements
- ✓ Apply best practices for network services, security, and multi-site deployments
- ✓ Evaluate architectural options to optimize the performance, resilience, and scalability of an NSX environment

## Intended audience

Architects and network and security consultants who design enterprise and data center networks and NSX environments.

## Prerequisites

Completion of the “VMware NSX: Install, Configure, Manage” training course (ref. VMZ) or equivalent knowledge. A solid understanding of TCP/IP services and protocols, as well as professional knowledge and experience in computer networks and security, including: switching and routing technologies (L2 and L3), network and application delivery services (L4 through L7), firewalls (L4–L7), and the vSphere environment.

## Course schedule

### PARTICIPANTS

Architects and network and security consultants who design enterprise and data center networks and NSX environments.

### PREREQUISITES

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### TRAINER QUALIFICATIONS

The experts who lead the training courses are specialists in the subjects covered. They are approved by the publisher and certified for the course. They have also been validated by our teaching teams in terms of both professional knowledge and teaching skills for each course they teach. They have at least three to ten years of experience in their field and hold or have held positions of responsibility in companies.

## 1 NSX Design Concepts

- Identify the design terms.
- Describe the project's framework and methodology.
- Describe the role of VMware Cloud Foundation™ in the design of NSX.
- Identify clients' requirements, assumptions, constraints, and risks.
- Explain the design.
- Explain logical design.
- Explain the physical design.

## 2 NSX Architecture and Components

- Identify the main components of the NSX architecture.
- Describe the NSX management cluster and the management plan.
- Identify the functions and components of data management, control, and data plans.
- Describe the sizing options for NSX Manager.
- Understand the rationale behind and implications of NSX Manager cluster design decisions.
- Identify the design options for the NSX management cluster.

## 3 NSX Edge Design

- Explain best practices for edge design.
- Describe the reference designs for NSX Edge virtual machines.
- Describe the reference architectures for bare-metal NSX Edge.
- Explain the key best practices for designing edge clusters.
- Explain the effect of allocating services with a statement.
- Explain the growth models of edge clusters.
- Identify design considerations when using L2 bridging services.

## 4 NSX Logic Switching Architecture

- Describe the concepts and terminology used in logic switching.
- Identify design considerations for transit segments and zones.
- Identify design considerations for virtual switches.
- Identify design considerations related to the uplink profile and the transport node profile.
- Identify design considerations for tunnels in Geneva.
- Identify design considerations for the BUM replication mode.

### ASSESSMENT TERMS

Assessment of targeted skills prior to training.

Assessment by the participant, at the end of the training course, of the skills acquired during the training course.

Validation by the trainer of the participant's learning outcomes, specifying the tools used: multiple-choice questions, role-playing exercises, etc.

At the end of each training course, ITTCERT provides participants with a course evaluation questionnaire, which is then analysed by our teaching teams. Participants also complete an official evaluation of the publisher.

An attendance sheet for each half-day of attendance is provided at the end of the training course, along with a certificate of completion if the participant has attended the entire session.

### TEACHING AIDS AND TECHNICAL RESOURCES

The teaching resources used are the publisher's official materials and practical exercises.

### TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training course.

### ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you have specific accessibility requirements? Contact Ms FOSSE, disability advisor, at the following address: psh-accueil@orsys.fr so that we can assess your request and its feasibility.

## 5 NSX Logical Routing Design

- Explain the function and characteristics of logical routing.
- Describe single-tier and multi-tier NSX routing architectures.
- Identify the recommendations to consider when selecting a routing topology.
- Describe the configuration options for the BGP and OSPF routing protocols.
- Explain the gateway's high-availability operating modes and failure detection mechanisms.
- Identify how multilevel architectures enable control over the placement of stateful services.
- Identify EVPN requirements and design considerations.
- Identify VRF Lite requirements and considerations.
- Identify typical scalable NSX architectures.

## 6 NSX Security Design

- Identify the various security features available in NSX.
- Describe the benefits of an NSX distributed firewall.
- Describe how the NSX Gateway Firewall is used as a perimeter firewall and as an intermediary firewall.
- Develop a security strategy methodology.
- Identify NSX security best practices.

## 7 NSX Network Services

- Identify the stateful services available in different high-availability modes for Edge clusters.
- Describe the mechanisms for detecting a rollover.
- Compare NSX NAT solutions.
- Explain how to select DHCP and DNS services.
- Compare policy-based IPsec VPN and routing-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®.

## 8 Physical Infrastructure Design

- Identifying the components of a switching structure design.
- Assessment of the implications of Layer 2 and Layer 3 switching fabric design.
- Review the guidelines when designing top-of-rack switches.
- Review the connection options for transport hosts to the fabric switch.
- Describe typical VMware ESXi™ compute hypervisor designs with two network adapters.
- Describe typical ESXi compute hypervisor designs with four or more network adapters.
- Distinguish between dedicated and reduced cluster approaches for SDDC design.

## 9 NSX Multisite Architecture

- Explain the scaling considerations in a multi-site NSX design.
- Describe the main components of the NSX Federation architecture.
- Describe the extended networking capabilities in Federation.
- Describe extended security use cases in Federation.
- Compare the federation's disaster recovery plans.

## 10 NSX Optimization and DPU-Based Acceleration

- Describe the unloading in Geneva.
- Describe the benefits of reception-side upscaling and Geneve Rx filters.
- Explain the benefits of SSL offloading.
- Describe the effect of Multi-TEP, MTU size, and network card speed on throughput.
- Explain the available enhanced data path modes and their use cases.
- List of 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 network configurations supported by DPUs.

### Options

**Certification : 360 € H.T.**

VMware NSX 4.x Advanced Design (3V0-42.23)

[Comment passer votre examen ?](#)

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### Dates and locations

#### REMOTE CLASS

2027 : 22 Feb., 31 May, 27 Sep., 15 Nov.

#### PARIS LA DÉFENSE

2027 : 22 Feb., 31 May, 27 Sep., 15 Nov.