VMware NSX 4.X Advanced Design

Exam Details (Last Updated: 12/31/2024)

The VMware NSX 4.x Advanced Design exam (3V0-42.23), which leads to VMware Certified Advanced Professional – Network Virtualization – Design, is a 55-item exam with a passing score of 300 using a scaled method. Candidates are given an appointment time of 135 minutes which includes adequate time to complete the exam for non-native English speakers. This exam may contain a variety of item types including multiple-choice, multiple-selection multiple-choice, build-list, matching, drag-and-drop, point-and-click and hot-area. Additional item types may be used but will appear less frequently than those previously mentioned.

Exam Delivery

This is a proctored exam delivered through Pearson VUE. For more information, visit the Pearson VUE website.

Certification Information

For details and a complete list of requirements and recommendations for attainment, please reference the VMware Certification website.

Minimally Acceptable Candidate

The candidate holds a valid VCP-NV credential. The candidate can clearly design VMware NSX solutions but occasionally needs to research topics. The candidate is knowledgeable of the features, functions, and architectures of VMware NSX but occasionally needs to research topics. The candidate should have a minimum of 1 to 2 years of experience designing VMware NSX solutions. The candidate has a minimum of 2 years enterprise network experience and software-defined data center experience. The candidate has knowledge of traditional and multi-cloud networking, vSphere, and Kubernetes, but occasionally needs to research topics. The candidate may hold additional industry-recognized IT certifications or accreditation. The candidate rarely needs to research network related topics. The candidate possess most or all of the knowledge shown in the exam sections (blueprint).

Exam Sections

VMware exam blueprint sections are now standardized into the five sections below, some of which may NOT be included in the final exam blueprint depending on the exam objectives.

Section 1 – IT Architectures, Technologies, Standards

Section 2 – VMware Solution

Section 3 – Plan and Design the VMware Solution

Section 4 – Install, Configure, Administrate the VMware Solution

Section 5 – Troubleshoot and Optimize the VMware Solution

If a section does not have testable objectives in this version of the exam, it will be noted accordingly. The objective numbering may be referenced in your score report at the end of your testing event for further preparation should a retake of the exam be necessary.

Sections Included in this Exam

- Section 1 - IT Architectures, Technologies, Standards
  - NO TESTABLE OBJECTIVES IN THIS SECTION

- Section 2 - VMware Solution
  - Objective 2.1 - Describe and explain NSX architecture and components
    - Objective 2.1.1 - Recognize the main elements in the NSX architecture
    - Objective 2.1.2 - Describe the NSX management cluster and the management plane
    - Objective 2.1.3 - Identify the functions and components of management, control, and data planes
    - Objective 2.1.4 - Describe the NSX Manager sizing options
    - Objective 2.1.5 - Recognize the justification and implication of NSX manager cluster design decisions
    - Objective 2.1.6 - Identify the NSX management cluster design options
    - Objective 2.1.7 - Identify the difference between enterprise and service provider NSX designs

- Section 3 - Plan and Design the VMware Solution
  - Objective 3.1 - Describe and explain design concepts
    - Objective 3.1.1 - Identify the design terms
    - Objective 3.1.2 - Describe the framework and project methodology
    - Objective 3.1.3 - Describe VMware Cloud Foundation designs
    - Objective 3.1.4 - Identify customers' requirements, assumptions, constraints, and risks
    - Objective 3.1.5 - Explain the conceptual design
    - Objective 3.1.6 - Explain the logical design
    - Objective 3.1.7 - Explain the physical design
  - Objective 3.2 - Describe and explain NSX Edge design
    - Objective 3.2.1 - Explain the leading practices for Edge design
    - Objective 3.2.2 - Describe the NSX Edge VM reference designs
    - Objective 3.2.3 - Describe the bare-metal NSX Edge reference designs
    - Objective 3.2.4 - Explain the leading practices for edge cluster design
    - Objective 3.2.5 - Explain the effect of stateful services placement
    - Objective 3.2.6 - Explain the growth patterns for edge clusters
    - Objective 3.2.7 - Identify design considerations when using L2 bridging services
  - Objective 3.3 - Describe and explain NSX logical switching design
    - Objective 3.3.1 - Describe the concepts and terminology in logical switching
    - Objective 3.3.2 - Identify segment and transport zone design considerations
    - Objective 3.3.3 - Identify virtual switch design considerations
    - Objective 3.3.4 - Identify the uplink profile, teaming policy, and transport node profile design considerations
    - Objective 3.3.5 - Identify Geneve tunneling design considerations
    - Objective 3.3.6 - Identify BUM replication mode design considerations
  - Objective 3.4 - Describe and explain NSX logical routing design
    - Objective 3.4.1 - Explain the function and features of logical routing
    - Objective 3.4.2 - Describe NSX single-tier and multi-tier routing architectures
    - Objective 3.4.3 - Identify the guidelines when selecting a routing topology

- Objective 3.4.4 - Describe the BGP and OSPF routing protocol configuration options
- Objective 3.4.5 - Explain gateway high availability modes of operation and failure detection mechanisms
- Objective 3.4.6 - Identify how multitier architectures provide control over stateful service location
- Objective 3.4.7 - Identify VRF Lite requirements and considerations
- Objective 3.4.8 - Explain EVPN design considerations in NSX
- Objective 3.4.9 - Identify the typical NSX scalable architectures

Objective 3.5 - Describe and explain NSX security design

- Objective 3.5.1 - Identify the different security features available in NSX
- Objective 3.5.2 - Describe the advantages of an NSX Distributed Firewall
- Objective 3.5.3 - Describe the use of NSX Gateway Firewall as a perimeter firewall and as an inter-tenant firewall
- Objective 3.5.4 - Determine a security policy methodology
- Objective 3.5.5 - Recognize the NSX security leading practices

Objective 3.6 - Describe and explain NSX network services design

- Objective 3.6.1 - Identify the stateful services available in different edge cluster high availability modes
- Objective 3.6.2 - Describe the failover detection mechanisms
- Objective 3.6.3 - Explain the design considerations for integrating VMware NSX Advanced Load Balancer with NSX
- Objective 3.6.4 - Describe stateful and stateless NSX NAT
- Objective 3.6.5 - Identify the benefits of NSX DHCP and NSX DNS
- Objective 3.6.6 - Describe IPSec VPN and L2 VPN

Objective 3.7 - Describe and explain physical infrastructure design

- Objective 3.7.1 - Identify the components of a switch fabric design
- Objective 3.7.2 - Assess Layer 2 and Layer 3 switch fabric design implications
- Objective 3.7.3 - Review the guidelines when designing top-of-rack switches
- Objective 3.7.4 - Review options for connecting transport hosts to the switch fabric
- Objective 3.7.5 - Describe typical designs for VMware ESXi compute hypervisors with two pNICs
- Objective 3.7.6 - Describe typical designs for VMware ESXi compute hypervisors with four or more pNICs
- Objective 3.7.7 - Differentiate dedicated and collapsed cluster approaches to SDDC design

Objective 3.8 - Describe and explain NSX multi-location design

- Objective 3.8.1 - Explain scale considerations in an NSX multisite design
- Objective 3.8.2 - Describe the main components of the NSX Federation architecture
- Objective 3.8.3 - Describe the stretched networking capability in Federation
- Objective 3.8.4 - Describe the stretched security use cases in Federation
- Objective 3.8.5 - Compare Federation disaster recovery designs

Objective 3.9 - Describe and explain NSX optimization and DPU based acceleration design

- Objective 3.9.1 - Describe Geneve Offload
- Objective 3.9.2 - Describe the benefits of Receive Side Scaling and Geneve Rx Filters
- Objective 3.9.3 - Explain the benefits of SSL Offload
- Objective 3.9.4 - Describe the effect of Multi-TEP, MTU size, and NIC speed on throughput
- Objective 3.9.5 - Explain the available Enhanced Datapath modes and use cases
- Objective 3.9.6 - List the key performance factors for compute nodes and NSX Edge nodes

Objective 3.9.7 - Explain DPU-Based Acceleration

Section 4 - Install, Configure, Administrate the VMware Solution

NO TESTABLE OBJECTIVES IN THIS SECTION

Section 5 - Troubleshoot and Optimize the VMware Solution

NO TESTABLE OBJECTIVES IN THIS SECTION

Recommended Courses

Courses used to develop this exam and strongly recommended to you for exam preparation:

VMware NSX: Design [4.x]

Related Certification

VCAP-NV Design

References

In addition to the recommended courses, item writers used the following references for information when writing exam questions. It is recommended that you study the reference content as you prepare to take the exam in addition to any recommended training.

VMware NSX: Design [4.x] ILT course or On Demand course

VMware Website (https://www.vmware.com)

VMware Docs (https://docs.vmware.com/)

VMware NSX Tech Zone (https://nsx.techzone.vmware.com)

VMware Technical Papers (https://www.vmware.com/techpapers.html)

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