

5V0-21.20

VMware HCI Master Specialist

Exam Details

The Master Specialist HCI exam (5V0-21.20), which leads to Master Specialist - HCI 2020 certification, is a 55-item exam with a passing score of 300, using a scaled method. Exam time is 100 minutes.

Exam Delivery

This is a proctored exam delivered through Pearson VUE. For more information, visit the [Pearson VUE website](#).

Badge Information

For details and a complete list of requirements and recommendations for attainment, please reference the [VMware Education Services – Certification website](#).

Minimally Qualified Candidate

The minimally qualified candidate will have achieved VCP-DCV and vSAN Specialist certification. Candidates should have 1 year of experience designing, configuring, managing, and upgrading VMware HCI environments. Candidates should be familiar with deployment and administration of VMs using Storage Policy-Based Management. Candidates should have intermediate knowledge of storage, storage hardware, monitoring, and remediation topics, as well as basic networking and security knowledge and should have completed the VMware vSAN: Deploy and Manage [V6.7] training. The MQC should have all of the knowledge contained in the exam sections listed below.

Exam Sections

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

- Section 1 – Architecture and Technologies
- Section 2 – Products and Solutions
- Section 3 – Planning and Designing
- Section 4 – Installing, Configuring, and Setup
- Section 5 – Performance-tuning, Optimization, and Upgrades
- Section 6 – Troubleshooting and Repairing
- Section 7 – Administrative and Operational Task

If a section does not have testable objectives in this version of the exam, it will be noted below, 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 the Exam

Section 1 - Architecture and Technologies - There are no testable objectives for this

Section 2 - VMware Products and Solutions

Objective 2.1 - Configure vSphere replication (effects of storage policies)

Objective 2.2 - Deploy vRealize Operations with vSAN

Section 3 - Planning and Designing

Objective 3.1 - Define and demonstrate vSAN design considerations (policies; fault domains; disc groups; vmkernel traffic; VCG; networking etc.)

Objective 3.2 - Design a vSAN cluster (availability; capacity tier; failure to tolerate; etc.)

Objective 3.3 - Use vSAN design and sizing tools (sizing cache tier for workload; no of nodes; VM sizing; Live Optics; HCI Bench etc.)

Section 4 - Installing, Configuring, and Setup

Objective 4.1 - Configure and validate a vSAN configuration (networking [emphasize this]; vSAN Health; Cluster Quickstart; fault domains)

Objective 4.2 - Create and manage disk groups

Objective 4.3 - Configure and validate vSAN services (iSCSI Target service, vSAN Encryption; vSAN fault domains; Health Service; dedupe/compression etc.)

Objective 4.4 - Configure vSAN stretched cluster and 2-node configurations

Objective 4.5 - Configure Cloud Native storage (CNS) with appropriate policies (Ensure container volumes are mapped to correct policies, datastore and are compliant)

Section 5 - Performance-tuning, Optimization, Upgrades

Objective 5.1 - Determine upgrade requirements

Objective 5.2 - Apply patches using vSphere Update Manager (VUM)

Objective 5.3 - Upgrade an HCI environment using VUM (AirGap environments)

Objective 5.4 - Add and remove hosts from a cluster (capacity: compute, storage etc.)

Objective 5.5 - Evaluate use case and apply appropriate maintenance mode option.

Objective 5.6 - Create, expand, reconfigure, and remove disk groups

Objective 5.7 - Manage firmware and driver versions using vSAN Health, VUM, and Compatibility Guide

Objective 5.8 - Set VUM baseline preferences

Section 6 - Troubleshooting and Repairing

Objective 6.1 - Identify failure scenarios (firmware and hardware compatibility; ESXi host failure; disk, hardware, network failures; vSAN failure recovery; DDH etc)

Objective 6.2 – Interpret vSAN Health warnings (most common: [use Humbug to define]; disk rebalance; congestion; hardware compatibility; object states etc)

Objective 6.3 - Determine vSAN Health using the vSphere Host Client, ESXCLI

Objective 6.4 - Evaluate performance information in the UI and using vsantop

Objective 6.5 - Manage hardware replacement (device failure; disk replacement; replace a host)

Objective 6.6 - Monitor resync impact

Objective 6.7 - Identify and remove unassociated objects to reclaim capacity

Objective 6.8 - Resolve capacity issues using storage policies (Proper way to return to a healthy capacity How to free capacity when an out-of-capacity situation, Capacity behavior best practices vs version specific)

Objective 6.9 - Resolve object compliance issues

Objective 6.1 - Configure/setup Network Diagnostics mode/option

Section 7 - Administrative and Operational Tasks

Objective 7.1 - Describe vSAN data placement changes (stretched clusters, fault domains)

Objective 7.2 - Evaluate vSAN performance metrics (IOPS, congestion, latency, throughput, vsantop, resync)

Objective 7.3 - Describe effects of maintenance mode options (UI and CLI, new features and functionality)

Objective 7.4 - Monitor storage policy compliance

Objective 7.5 - Interpret Health Check (actioning alerts, resolving alerts, configuring on-line Health; evaluate vSAN object health.)

Objective 7.6 - Identify the impact of policy changes (capacity, fault tolerance, IOPS limit)

Objective 7.7 - Identify cluster configuration inconsistency and remediate through health check (Initiate remediation workflow from Health check)

Recommended Courses

(Required)VMware vSAN: Deploy and Manage [V6.7]

VMware vSAN: Production Operations [V6.7]

VMware vSAN: Production Operations [V6.7] - OnDemand

VMware vSAN: Troubleshooting Workshop [V6.7]

References

<http://www.vmware.com> - [Section and Objective Topics]

<http://kb.vmware.com> - [Section and Objective Topics]

<https://blogs.vmware.com> - [Section and Objective Topics]

<https://docs.vmware.com> - [Section and Objective Topics]

<https://pubs.vmware.com> – [Section and Objective Topics]

<https://www.vmware.com/techpapers.html> – [Section and Objective Topics]

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