

# VMware

## Exam Questions 3V0-21.21

Advanced Design VMware vSphere 7.x



### NEW QUESTION 1

The Chief Information Security Officer (CISO) for an organization is concerned about the security posture of the operating system images that are used for the provisioning of their Software-as-a-Service (SaaS) applications. The organization is in a growth period. The organization is opening a new data center to launch its next phase of new SaaS-based solutions.

The DevOps team currently creates encrypted virtual machine (VM) templates that are used for various operating systems and adds these to the vSphere inventory. The DevOps team already uses a published content library and has been granted a role with the ability to add and delete library items.

The following requirements have been noted:

- Impacts to the DevOps team's operational processes must be kept to a minimum.
- The DevOps team must be able to regularly check out a copy of the image for updates and check in a new version of the image.
- Images must be synchronized from the primary data center to the new data center.

Which three recommendations should the architect make to design a content library solution that will meet these requirements? (Choose three.)

- A. Clone virtual machines as VM templates to the published content library
- B. Create a subscribed library from the published library and synchronize Open Virtualization Format (OVF) templates on-demand
- C. Create a subscription and publish VM templates to a subscribed content library
- D. Create a subscribed library from the published library and synchronize Open Virtualization Format (OVF) templates automatically
- E. Clone virtual machines as Open Virtualization Format (OVF) templates to the published content library
- F. Update the role for the DevOps team with new privileges

**Answer:** BEF

### NEW QUESTION 2

An architect is designing a VMware solution for a customer based on the following information:

- The solution must support the ability to migrate workloads between hosts within a cluster.
- The solution must support resource management priorities.
- The solution must support the ability to connect virtual machines directly to LUNs.
- The solution should use existing IPv4 based network infrastructure.
- There is no budget for additional physical hardware.

Which two design decisions could the architect make to meet these requirements? (Choose two.)

- A. The ESXi hosts will leverage Fibre Channel (FC)
- B. The ESXi hosts will leverage NFS 3
- C. The ESXi hosts will leverage Fibre Channel over Ethernet (FCoE)
- D. The ESXi hosts will leverage iSCSI
- E. The ESXi hosts will leverage NFS 4.1

**Answer:** BD

#### Explanation:

<https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.vsphere.storage.doc/GUID-8A929FE4-1207-4C> Starting from vSphere 7.0, VMware no longer supports software FCoE in production environments.

<https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.vsphere.storage.doc/GUID-6B49866F-7005-40>

### NEW QUESTION 3

Following a recent acquisition, the architect learns that both companies use vSphere on-premise and will need to combine the data centers into one. The acquired company's licenses will not be renewed for cost-savings related to the acquisition. All consumed vSphere licenses must have active support to support line-of-business operations. The merged environment must maintain 25% spare capacity. The architect has a small budget remaining unallocated for hardware.

The architect has calculated that the current vSphere environment can absorb the acquired company's virtual machines but the cluster will run at 90% memory utilization and at 50% CPU utilization.

Which design decision can the architect make to incorporate the new company's virtual machines into the combined vSphere environment?

- A. Migrate the acquired company's virtual machines into the vSphere environment as it will currently fit.
- B. Use the current budget to add memory to the cluster to increase each ESXi host's capacity and add the new virtual machines.
- C. Purchase extra hosts to add to the cluster in anticipation of adding the acquired company's virtual machines.
- D. Purchase new licenses for some of the acquired company's ESXi hosts and add them to the cluster to hold the acquired company's virtual machines.

**Answer:** B

### NEW QUESTION 4

An architect is designing a new vSphere platform to meet a list of requirements from the security team. Which two requirements would be classified as non-functional requirements? (Choose two.)

- A. Migration of virtual machines between hosts must be encrypted
- B. Log information must be verbose to support incident resolution
- C. Critical events generated within the platform must be logged to an external Syslog service
- D. Data integrity must be ensured
- E. A common content library must be maintained across all data centers

**Answer:** CD

### NEW QUESTION 5

Which design decision must be included in a design to allow for the deployment of a minimum supported configuration of vCenter High Availability (HA)?

- A. A new subnet will be provisioned for vCenter HA services

- B. A vSphere cluster will consist of more than three nodes
- C. The deployed vCenter Server will be Tiny
- D. The vCenter HA network will support a latency of less than 50 ms

**Answer:** A

**Explanation:**

<https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.vsphere.avail.doc/GUID-8FD87389-8CC9-429>

**NEW QUESTION 6**

An architect is designing a new greenfield environment with 600 ESXi hosts in an automated fashion. The engineering department already has a PXE Boot server, TFTP server, and DHCP server set up with an NFS mount for their current Linux servers.

The architect must be able to demonstrate and meet a security requirement to have all infrastructure processes separated.

Which recommendation should the architect make for the ESXi host deployment?

- A. Request an isolated network segment to use and dedicate it to Auto Deploy functions
- B. Ask the business to expand the engineering environment to service the virtual environment as well
- C. Request a common shared network with flexible security measures to accommodate different auto deployment options
- D. Deploy each ESXi host individually and document it to satisfy security requirements

**Answer:** A

**Explanation:**

<https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.esxi.install.doc/GUID-8DAC6FEE-0441-4072>

**NEW QUESTION 7**

The Chief Operating Officer (COO) at an organization raises concerns that their virtual infrastructure environment is vulnerable. Recently, a security-related issue with a virtual machine caused all management services to become unavailable. No budget is available in the short term for additional platform investment. An architect is asked to review the current environment and make recommendations to mitigate concerns.

A virtualization administrator has provided the following details:

- > There is a single four node cluster of ESXi servers
- > There are two, Layer 2, physical network switches connecting resources
- > The data center network is presented as a single /16 subnet

Given the information provided, which functional requirement should the architect include in the design to mitigate the COOs concerns?

- A. The virtual infrastructure environment must connect application virtual machines and management services to new physical network switches
- B. The virtual infrastructure environment must connect application virtual machines and management services to separate distributed virtual switches (DVS)
- C. The virtual infrastructure environment must connect application virtual machines and management services to separate VLANs
- D. The virtual infrastructure environment must connect management services to a vSphere standard switch (VSS)

**Answer:** D

**NEW QUESTION 8**

What is a benefit of using a scale-out method for handling vSphere cluster growth?

- A. An increase in the recovery time objective (RTO) for the cluster
- B. Faster to reach the limit of virtual machines per host
- C. An overall reduction in the license costs for the cluster
- D. Less potential impact to virtual machines during a single host failure

**Answer:** B

**NEW QUESTION 9**

An architect is finalizing the design for a new vSphere platform based on the following information:

- > All Windows virtual machines will be hosted on a dedicated cluster for licensing purposes.
- > All Linux virtual machines will be hosted on a dedicated cluster for licensing purposes. All management virtual machines will be hosted on a dedicated cluster.
- > A total of ten physical sites will be used to host virtual machines.
- > In the event of one physical datacenter becoming unavailable, the manageability of the virtual infrastructure in the remaining data centers should not be impacted.
- > Access to configure the management virtual machines via vCenter Server must be controlled through the management Active Directory domain.
- > Access to configure the Windows and Linux virtual machines must be controlled through the resource Active Directory domain.
- > The management and resource Active Directory domains are part of separate Active Directory forests and do not have any trusts between them.
- > The design will use Active Directory with Integrated Windows Authentication.

How should the architect document the vCenter Server configuration for this design?

- A. Deploy a vCenter server for the management cluster. Deploy a vCenter Server for all remaining cluster
- B. Create a shared SSO domain for each physical site.
- C. Deploy a vCenter Server for the management cluster. Deploy a vCenter Server for all remaining cluster
- D. Create a shared SSO domain across all physical sites.
- E. Deploy a vCenter Server for the management cluster with a dedicated SSO domain. Deploy a vCenter Server for all remaining clusters and use a dedicated SSO domain for each physical site.
- F. Deploy a vCenter Server for the management cluster with a dedicated SSO domain. Deploy a vCenter Server for all remaining clusters and use a dedicated SSO domain into a single physical site.

**Answer:** B

#### NEW QUESTION 10

An architect is designing a VMware solution for a customer to meet the following requirements:

- The solution must use investments in existing storage array that supports both block and file storage.
- The solution must support the ability to migrate workloads between hosts within a cluster.
- The solution must support resource management priorities.
- The solution must support the ability to connect virtual machines directly to LUNs.
- The solution should use existing 32G fabric infrastructure.
- There is no budget for additional physical hardware.

Which design decision should the architect make to meet these requirements?

- A. The ESXi hosts will leverage Fibre Channel (FC).
- B. The ESXi hosts will leverage iSCSI.
- C. The ESXi hosts will leverage Fibre Channel over Ethernet (FCoE).
- D. The ESXi hosts will leverage NFS.

**Answer: A**

#### NEW QUESTION 10

A customer provides the following list of requirements for their vSphere platform:

- REQ01 The solution should utilize dual network connections to eliminate single points of failure.
- REQ02 The solution should allow logs to be retained for a period of 30 days.
- REQ03 All user access to the platform should be recorded for audit purposes.
- REQ04 The solution should allow the management of multiple ESXi hosts.
- REQ05 The solution should allow users to view the remote console of virtual machines.

Which two of the listed requirements would be classified as non-functional requirements? (Choose two.)

- A. The solution should utilize dual network connections to eliminate single points of failure
- B. The solution should allow the management of multiple ESXi hosts
- C. The solution should allow users to view the remote console of virtual machines
- D. All user access to the platform should be recorded for audit purposes
- E. The solution should allow logs to be retained for a period of 30 days

**Answer: AE**

#### NEW QUESTION 11

Following a recent acquisition, an architect needs to merge IT assets into its current data center. The combined vSphere environment will need to run the newly acquired company's virtual machines.

Network integration work has already been completed and the current environment has capacity to host all virtual machines. The Operations team needs to identify which virtual machines belong to the acquired company and report on their usage.

How should the architect merge the company's assets and virtual machines?

- A. Leave the newly acquired company's assets in its current place
- B. Lift and shift the acquired assets into the data center
- C. Migrate the acquired company's virtual machines into the existing vSphere environment
- D. Migrate and apply vSphere tags to the acquired company's virtual machines

**Answer: D**

#### NEW QUESTION 13

An architect is considering placement of virtual machines within an existing VMware software-defined data center (SDDC).

During the discovery phase, the following information is documented: Cluster One

- Six ESXi hosts
- vSphere HA with host failures cluster tolerates = 1
- Proactive HA is enabled and set to automated
- Fully Automated vSphere DRS
- Transparent Page Sharing (TPS) is enabled Cluster Two
- Eight ESXi hosts
- vSphere HA with host failures cluster tolerates = 1
- Proactive HA is disabled
- Partially Automated vSphere DRS
- Transparent Page Sharing (TPS) is disabled Cluster Three
- Three ESXi hosts
- vSphere HA with admission control is disabled
- Proactive HA is not supported
- Transparent Page Sharing (TPS) is disabled Virtual Machine Resource Profile 1
- Memory sharing techniques should not be used
- Automated initial virtual machine placement

Virtual Machine Resource Profile 2

- Memory sharing techniques should not be used

- > Virtual machines should be automatically restarted in the event of host failure regardless of available resources
- > Automated initial virtual machine placement

Which two recommendations should the architect make for placement of the virtual machines to meet resource profile requirements? (Choose two.)

- A. All virtual machines matching Virtual Machine Resource Profile 2 should be placed on Cluster One.
- B. All virtual machines matching Virtual Machine Resource Profile 1 should be placed on Cluster One.
- C. All virtual machines matching Virtual Machine Resource Profile 2 should be placed on Cluster Two.
- D. All virtual machines matching Virtual Machine Resource Profile 1 should be placed on Cluster Two.
- E. All virtual machines matching Virtual Machine Resource Profile 2 should be placed on Cluster Three.

**Answer:** DE

**Explanation:**

<https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.vsphere.resmgmt.doc/GUID-FEAC3A43-C57E>

**NEW QUESTION 18**

An architect is designing a new VMware software-defined data center (SDDC) that will consist of 100 branch sites connected to a single VMware vCenter Server within the primary data center. To allow for the use of existing automation scripts, there is a requirement to replicate the names of the virtual distributed port groups across all sites. The procurement team purchases licensing and there is no further budget allocated.

Which design decision should the architect make to meet this requirement?

- A. A new vCenter Server will be deployed for each branch site
- B. A new host and cluster folder will be created for each branch site
- C. The automation script will be updated to reflect unique naming for each site
- D. A new virtual data center will be created for each branch site

**Answer:** B

**NEW QUESTION 21**

An architect is designing a solution based on the following information:

- > Each ESXi host has a single physical NIC with two 10 Gbps ports.
- > There is a performance-based service-level agreement (SLA) that guarantees 15 Gbps bandwidth for production virtual machines at all times.
- > There is no budget to purchase additional hardware.
- > The hardware replacement SLA is based on a delivery agreement of two business days.

Which recommendation for the configuration of vSphere High Availability (HA) should the architect include in the design?

- A. Configure vSphere HAConfigure % based admission control Configure two isolation addresses Consider an OEM with NIC failure conditions in their Proactive HA plugin
- B. Configure vSphere HASet das.IgnoreRedundantNetWarning to trueConsider an OEM with NIC failure conditions in their Proactive HA plugin
- C. Configure vSphere HAConfigure two existing data stores for heartbeatConsider an OEM with NIC failure conditions in their Proactive HA plugin
- D. Configure Proactive HA Automation Level: Automated Remediation: Maintenance mode for all failuresConsider an OEM with NIC failure conditions in their Proactive HA plugin

**Answer:** A

**NEW QUESTION 26**

An architect is creating a network design for a new vSphere environment.

Based on customer requirements, the environment must support the following types of traffic:

- > Management
- > vMotion
- > vSAN
- > Fault Tolerance
- > Virtual machine traffic, which cannot be impacted by other types of traffic

Which design recommendation can the architect make for a resilient infrastructure with vSphere network service tiering?

- A. Use different logical networks to ensure traffic is isolated with separate VLANs
- B. Use Network I/O Control and ensure appropriate share value is defined for different types of traffic giving priority to the virtual machines traffic
- C. Use two dedicated virtual switches with a single adapter each, dedicating one virtual switch for Management, vMotion, vSAN and Fault Tolerance traffic, and the second one for virtual machine traffic
- D. Use a NIC teaming policy based on the physical NIC load

**Answer:** A

**NEW QUESTION 29**

An architect is designing a new vSphere cluster. The requirement is to provide a total of 96 CPU cores and 1.5 TB RAM across all hosts.

The following information has been provided:

Two different physical hardware profiles are available for the ESXi hosts in the cluster.

-Profile 1: 16 CPU cores and 256 GB RAM

-Profile 2: 32 CPU cores and 512 GB RAM

Profile 2 is twice as expensive to purchase as Profile 1.

Which two aspects should the architect consider when selecting the hardware profile? (Choose two.)

- A. The manufacturer and model of the CPUs in the hosts
- B. The amount of capacity available for failover of virtual machines within the cluster
- C. The downtime allowed for virtual machines that will be running within the cluster

- D. The cost to procure and maintain the hardware
- E. The number of virtual machines that will be running within the cluster

**Answer:** BE

#### NEW QUESTION 30

An architect is designing a vSphere environment for a customer based on the following information:

- The vSphere cluster will have three hosts only due to budget considerations.
- A database cluster (node majority) consisting of three virtual machines will be running on the vSphere cluster.

Which two recommendations can the architect make so that the customer achieves the highest level of application availability while taking into consideration operational resiliency? (Choose two.)

- A. Create VM-VM anti-affinity rules
- B. Set `das.respectvmvanti-affinityrules` to false
- C. Create VM-Host anti-affinity rules
- D. Disable vSphere HA during maintenance
- E. Set `das.ignoreinsufficienthbdastore` to true

**Answer:** BC

#### NEW QUESTION 32

Which two of the listed requirements would be classified as manageability non-functional requirements? (Choose two.)

- A. ESXi clusters must scale when compute resources are sustained above 70% for five business days
- B. vSphere Fault Tolerance must be supported to improve application uptime
- C. ESXi host updates must be installed within one week of release
- D. The vSphere environment must support administrator password rotation
- E. ESXi clusters must scale to 500 concurrent virtual machines

**Answer:** AC

#### NEW QUESTION 36

As part of a new hybrid cloud initiative for a large financial company, the customer technical team is presenting an overview of the current state of the infrastructure and their vision for a new solution.

The project team captures notes during the presentation and adds them to the discovery documentation. Which of the listed statements is a design constraint?

- A. The applications are created in-house with in-guest recovery protection
- B. The maximum tolerable data loss is 10 minutes
- C. The two data center locations have a network latency of 8 ms round-trip time (RTT)
- D. The existing storage is out of maintenance

**Answer:** D

#### NEW QUESTION 38

An architect decides to separate virtual desktops and application servers into separate vSphere clusters to meet security and management requirements.

What are two implications of this design decision? (Choose two.)

- A. There will be an increase in management overhead.
- B. Identical hardware must be procured for all hosts.
- C. There will be a reduction in performance.
- D. The patching cycles will affect both clusters at the same time.
- E. There will be additional licensing and cost requirements for both clusters.

**Answer:** DE

#### NEW QUESTION 40

Which of the listed requirements would be classified as a recoverability non-functional requirement?

- A. The platform must be integrated with existing change control policies.
- B. The platform must be able to support a maximum tolerable downtime (MTD) of 30 minutes.
- C. Maintenance windows must be scheduled to take place monthly during an established overnight period.
- D. The platform must be available 24 hours a day, 7 days a week with the exception of scheduled downtime.

**Answer:** A

#### NEW QUESTION 41

An architect is tasked with designing a new VMware software-defined data center (SDDC) solution for an online retail customer who has a primary and secondary data center as well as 10 distribution hubs.

The customer has provided the following business requirements to help inform the design:

- The solution must support the running of up to 1,000 concurrent virtual machines across the primary and secondary data center.
- The solution must support the running of up to 20 concurrent virtual machines in each distribution hub.
- The solution must support the separation of management and lines-of-business application virtual machines.
- All management components (including directory services, backup, automation, operations and logging) must be deployed to the primary data center.
- All virtual infrastructure components must have redundancy of N+1.

- > The solution should support a monthly uptime target of 99.9%.
- > The recovery time objective (RTO) for the solution must be four hours.
- > The recovery point objective (RPO) for the solution must be 24 hours.

Given the information from the customer, which assumption should the architect include in the design?

- A. All business application virtual machines can be deployed into a single cluster within the primary data center.
- B. Each distribution hub should be configured with a backup device.
- C. The wide area network has sufficient bandwidth to support centralized management.
- D. Each cluster will have a minimum of four hosts.

**Answer: B**

#### NEW QUESTION 44

Application owners require support of a Microsoft Windows Server Failover Cluster (WSFC). Their current environment consists of the following components:

- > vSphere 7.0 and vSAN 7.0
- > External array supporting NFS 3.0/4.1, Server Message Block (SMB) 2.1
- > 10 GbE storage connectivity for all devices

The solution architect is tasked with coming up with a solution to meet this requirement while utilizing their existing investments. Which two recommendations could the architect make? (Choose two.)

- A. Use vSAN native support for WSFC
- B. Use NFS 4.1 shares for quorum and shared disk
- C. Use raw device mapping (RDM)
- D. Use the SMB 2.1 protocol for sharing disks
- E. Run WSFC on vSAN iSCSI Target Service

**Answer: AE**

#### Explanation:

<https://blogs.vmware.com/virtualblocks/2018/04/18/vsan-6-7-introducing-wsfc-support-vsan>

#### NEW QUESTION 48

An architect has 50 ESXi hosts to deploy and DHCP servers are not allowed on any network. Which automated host deployment method should the architect use?

- A. Stateless vSphere Auto Deploy
- B. Stateful vSphere Auto Deploy
- C. Scripted installation
- D. Interactive installation

**Answer: C**

#### NEW QUESTION 50

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