

Exam Questions 3V0-21.21

Advanced Design VMware vSphere 7.x

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NEW QUESTION 1

An architect is designing a new vSphere platform for a customer to meet the following requirements:



The platform must be deployed into five physically separate sites.
The sites are spread across multiple regions.
Some sites require more than one vCenter Server.
The platform must provide an administrator with the ability to access virtual infrastructure components across all sites from a single management tool instance.
Which single sign-on (SSO) design recommendation will meet these requirements?

- A. Use an SSO domain across all vCenter Server instances
- B. Use an SSO domain per region
- C. Use an SSO domain per vCenter Server instance
- D. Use an SSO domain per site

Answer: C

NEW QUESTION 2

During a transformation project kick-off meeting, an architect highlights specific areas on which to focus while developing the new conceptual design.
Which two of the listed statements are business requirements? (Choose two.)

- A. The project should use the existing storage devices within the data center
- B. Sites must support a network latency of less than 12 ms round-trip time (RTT)
- C. The solution must allow data replication between sites
- D. There is no budget specifically assigned for disaster recovery
- E. There must not be a single point of failure for the virtual infrastructure

Answer: CE

NEW QUESTION 3

An architect is designing the expansion of an existing vSphere 7 environment. The customer is requesting a design for a new cluster to support the anticipated future business growth. The requirements specified for the existing environment design must be considered when designing the new cluster.

The existing design has the following requirements:

- REQ01 The environment has an availability target of 99.5% for all infrastructure.
- REQ02 The recovery time objective (RTO) for Tier 1 virtual machines is one hour.
- REQ03 Windows and Linux virtual machines must reside on separate clusters.
- REQ04 Access to the management cluster within the environment must be controlled. Which of the listed requirements would be classified as a functional requirement?

- A. The environment has an availability target of 99.5% for all infrastructure
- B. The recovery time objective (RTO) for Tier 1 virtual machines is one hour
- C. Access to the management cluster within the environment must be controlled
- D. Windows and Linux virtual machines must reside on separate clusters

Answer: D

NEW QUESTION 4

An architect will be taking over control of a former Linux server fleet and repurposing the hardware into a new vSphere cluster. The current environment is already connected to the network but the hosts do not have any local disks. Since the fleet hardware is uniform, the architect can use a single ESXi image. All hosts within the cluster have the same CPU and memory capacity.

Which ESXi deployment method should the architect use?

- A. Stateless cached vSphere Auto Deploy
- B. Stateless vSphere Auto Deploy
- C. Manual install of each ESXi host with an image from USB
- D. Stateful vSphere Auto Deploy

Answer: B

NEW QUESTION 5

An architect is designing a new greenfield environment that will install ESXi on local disks. There is a requirement to streamline initial and future installations of ESXi hosts.

Which configuration option should the architect recommend for installing ESXi hosts to meet these requirements?

- A. Installation with kick start script
- B. Auto Deploy with stateless caching mode
- C. Manual installation using boot from SAN
- D. Auto Deploy with stateful install mode

Answer: D

NEW QUESTION 6

An architect is designing a new vSphere environment to meet the following requirements:

The environment must support 5,000 virtual machines.

The environment will be built initially using 350 hosts.

Which vCenter Server appliance deployment size should the architect specify for the design?

- A. Large
- B. Small
- C. Tiny
- D. Medium

Answer: A

Explanation:

<https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.vcenter.install.doc/GUID-077C7523-E0EA-492>

NEW QUESTION 7

An architect makes the design decision to install ESXi on embedded and resilient 8 GB SD cards. What is the impact of this design decision?

- A. Host profiles must be used for this kind of installation
- B. Scratch partition would need to be created on the external storage
- C. The size of the SD cards is too small and the installation will fail
- D. The vSphere Auto Deploy feature must be enabled on vCenter Server

Answer: B

Explanation:

<https://kb.vmware.com/s/article/2074026> You can store coredumps on the SD boot media, but refrain from configuring the scratch partition here as the logs are write intensive and can cause the SD card to fail faster resulting in re-installation of ESXi

NEW QUESTION 8

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 9

Refer to the exhibit.

During a requirements gathering workshop, the architect shares the following diagram:

What should the architect recommend for guaranteed throughput for each service?

- A. Use explicit failover order with pNIC0 as Active for ESXi Management and VM Network Use explicit failover order with pNIC1 as Active for backup network Use explicit failover order with pNIC2 as Active for vMotion Use explicit failover order with pNIC3 as Active for replication
- B. Use the Route Based on IP Hash for ESXi management and VM network Use the Route Based on IP Hash for backup network Use the Route Based on the Originating Virtual Port for vMotion Use failover with pNIC3 as Active for replication
- C. Create a link aggregation group (LAG) for vDS_01 Use the Route Based on Physical NIC Load for vMotion Use the Route Based on Physical NIC Load for replication
- D. Use the Route Based on IP Hash for ESXi management and VM network Use failover with pNIC1 as Active for backup network Create a link aggregation group (LAG) for vDS_02

Answer: A

NEW QUESTION 10

Refer to the exhibit.

During a requirements gathering workshop, a customer shares the following diagram regarding their availability service-level agreements (SLAs):

The customer states that there is no application level availability for legacy applications.

Which recommendation could the architect make to meet the customer's high availability requirements for the legacy applications virtual machines?

- A. Enable vSphere HA and add a VM Override with VM Restart Priority set to Disabled
- B. Enable Fault Tolerance
- C. Achieve application availability with snapshots
- D. Enable vSphere HA and add a VM Override with VM Restart Priority set to Lowest

Answer: D

NEW QUESTION 10

An architect is tasked with designing a greenfield VMware software-defined data center (SDDC) solution that will be used to deliver a private cloud service for a customer.

During the initial meeting with the service owner and business sponsor, the customer has provided the following information to help inform the design:

The solution must initially support the concurrent running of 300 production and 600 development virtual machines.

The production environment should be delivered across two geographically dispersed data centers. The development environment must be vSphere-based but does not have to be deployed on-premises.

The two data centers are connected to each other through multiple diversely routed, high bandwidth and low latency links.

The customer's server hardware standard document states that all virtual infrastructure hosts must be based on blade architecture only.

The service owner has said that is important to ensure that neither the availability target of 99.5% nor the resource capacity is affected when the operations team completes maintenance activities, such as the monthly software patching and ad-hoc hardware break/fix.

All virtual machine backups must be completed using the existing backup service. The recovery time objective (RTO) for the service is four hours.

The recovery point objective (RPO) of the service is 24 hours.

Given the information from the customer, which two would be classified as assumptions within the design? (Choose two.)

- A. The backup service will store data in a secure facility
- B. The backup service has sufficient capacity for the new requirements
- C. The customer will update their hardware standard to support rack mount servers
- D. All virtual machines will be deployed with the same resource profile for production and development
- E. The clusters will have a minimum redundancy of N+1

Answer: BE

NEW QUESTION 15

Asynchronous replication is required between two sites.

The impact on the storage layer should not impact the performance of the compute layer.

Each application tier will require different replication attributes.

Virtual machine live migration across compute and storage must be supported.

Virtual machine aware back up will be leveraged.

Operational management overhead should be minimized.

Operational automation should be supported.

Which storage design recommendations would meet the requirements?

- A. Two new Fibre Channel storage arrays will be deployed, one at either site.Each application tier will be initially provisioned a new LU
- B. Data replication will be offloaded to the new arrays.
- C. Two new vSphere clusters enabled with vSAN will be deployed, one at either sit
- D. vSAN will be used to provide policy-based management for each application tier.vSphere Replication will be used to replicate the virtual machine data in an asynchronous design.
- E. Two new iSCSI storage arrays will be deployed, one at either site.Each application tier will be initially provisioned a new LU
- F. Data replication will be offloaded to the new arrays.
- G. Two new storage arrays will be deployed, one at either site.vSphere Volumes (vVOLS) will be used to provide policy-based management for each application tie
- H. Data replication will be offloaded to the new arrays.

Answer: B

NEW QUESTION 18

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 22

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 26

An architect is designing a solution for an environment with two types of resource profiles that must be virtualized. The first type consists of Tier 1 virtual machines that are disk I/O intensive, but do NOT require high CPU or memory. The second type consists of Tier 2 virtual machines that require a lower CPU and memory allocation and have minimal disk I/O. Which design recommendation should the architect make for distributing the resource profiles?

- A. Separate the two resource profiles into two cluster
- B. The Tier 1 cluster will have fast storage while the Tier 2 cluster will not.
- C. Run both resource profiles on the same cluster with the same host hardware platform.
- D. Separate the two resource profiles into two cluster
- E. The Tier 2 cluster will have faster CPU and more memory while the Tier 1 cluster will have slower CPU and less memory but more disk space.
- F. Run both resource profiles on the same cluster with host hardware that has fast CPU, large amounts of memory, and the fastest storage platform.

Answer: D

NEW QUESTION 30

An architect is tasked with planning the design of a new vSphere environment. When commissioned, this environment will be used to migrate an existing set of virtual machines.

An inventory of the existing infrastructure, including configured vCPU, RAM and storage sizes has been provided.

In order for each virtual machine to be migrated, which two data sources with peak and average utilization data are required for sizing? (Choose two.)

- A. %Ready
- B. Disk Write latency
- C. CPU
- D. Ballooned memory

E. IOPS

Answer: BE

NEW QUESTION 33

A architect is designing a new VMware software-designed data center (SDDC) using vSphere 7 to meet the following requirements:

The SDDC must be deployed at two locations: primary and secondary.
vSphere Replication must be used to replicate virtual machines between the two locations.
Site Recovery Manager must be used to orchestrate disaster recovery (DR) activities.
One single-sign on (SSO) domain must be used to authenticate access at both locations. Which design decision should the architect make to meet these requirements?

- A. A vCenter Server Appliance will be deployed to each sit
- B. Unique SSO domains will be created per site.
- C. A vCenter Server will be installed on Windows virtual machines deployed to both sites.
- D. A vCenter Server Appliance will be deployed to each site.
- E. A vCenter Server Appliance will be deployed to the primary site only.

Answer: D

NEW QUESTION 36

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 41

A customer has a database cluster with 40/60 read/write ratio and a high IOPs requirement with no contention on an all-flash vSAN cluster.
Which two storage settings should be configured for best performance? (Choose two.)

- A. IOPs limits enabled
- B. RAID 1
- C. Deduplication and Compression disabled
- D. RAID 5/6
- E. Deduplication and Compression enabled

Answer: AB

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:

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

A. The solution will leverage a single storage array for the WORM archive and write-intensive storage profiles

B. The solution will leverage the same array for the backup and write-intensive storage profiles

C. The solution will leverage a different array for each storage profile

D. The solution will leverage a single storage array for all storage profiles

Answer: C

An architect is tasked with reviewing the design of a VMware software-defined data center (SDDC) for a software development company. The platform is used to developing applications and services. It is important that the customer be able to accurately benchmark performance of developed applications. The platform has recently commissioned new hosts to update the development cluster. The development cluster host configuration is:

4 ESXi hosts with 2 sockets × 16 cores
512 GB RAM divided evenly between sockets
There is no resource contention
The benchmarking cluster host configuration is:
8 ESXi hosts with 2 sockets × 8 cores
256 GB RAM divided evenly between sockets
There is no resource contention
The customer is developing an application that includes a database virtual machine. The application developer states that the database virtual machine performs as required only when allocated 8 vCPUs 256 GB RAM. The database virtual machine performance meets the required levels when run from the development cluster. Performance benchmarking for the database virtual machine yields highly variable results when run from the benchmarking cluster. The application cannot be released without reliable performance benchmarking data.
What is a possible reason for the difference in performance test results between the development and benchmarking clusters?

A. The database tier breaches a single NUMA node boundary for the benchmarking cluster
B. The database tier breaches a single NUMA node boundary for the development cluster
C. The development cluster can support a lower %Ready time per vCPU
D. The development cluster has more available RAM per host

Answer: C

NEW QUESTION 57

During a requirements gathering workshop to design a physical to virtual migration, the customer provides the following information:
There is no physical firewall in the data center with no anticipated plans for a future network refresh.
Leveraging the virtual infrastructure to mitigate the lack of network security must be addressed in the design.
All physical servers to be migrated exist on the same VLAN.
Which recommendation should the architect make to address the customer requirement with regard to virtual networking?

- A. Split the virtual machines into several VLANs Use tag actions
B. Create port groups with different names and same VLAN IDs Enable traffic shaping for ingress and egress traffic
C. Enable traffic filtering and marking Use allow or drop actions
D. Disable traffic filtering and marking Use tag actions

Answer: A

NEW QUESTION 62

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 63

During a requirements gathering workshop, the customer provides the following requirement (REQ) and constraints (CON):



REQ01: The customer is looking for a way to limit database virtual machine (VM) placement to save on CPU licensing costs.

CON01: There is a single cluster with no budget to scale.

CON02: All virtual machines must run on the consolidated cluster.

Which two design decisions should the architect make to meet the customer requirement? (Choose two.)

- A. The solution must use VM-VM anti-affinity rules
- B. The solution must use vSphere DRS in manual mode
- C. The solution must use a vRealize Orchestrator workflow for VM placement
- D. The solution must use VM-Host affinity rules
- E. The solution must use vSphere VM and host DRS groups

Answer: DE

NEW QUESTION 67

An architect is tasked with expanding an existing VMware software-defined data center (SDDC) solution so that it can be used to deliver a virtual desktop infrastructure (VDI) service off-shore development activities.

The production environment is currently delivered across two geographically dispersed data centers. The two data centers are currently connected to each other through multiple diversely routed, high bandwidth and low latency links. The current operations management components are deployed to a dedicated management cluster that is configured with N+1 redundancy. The current VMware software-defined data center (SDDC) has a monthly availability target of 99.5%, which includes all management components.

The customer requires that the new solution scale to support the concurrent running of 500 persistent virtual desktops. The virtual desktops must not share the same virtual infrastructure as existing virtual machines, but can be managed using the same VMware operations management components. Any new VDI service management components must be installed into the management cluster. There is no requirement to back up the virtual desktops because all relevant user data is stored centrally. The VDI service is providing business critical services and must have an availability target of 99.9%.

Given the information from the customer, which two assumptions would the architect include in the design? (Choose two.)

- A. The existing virtual infrastructure has sufficient capacity to host the new VDI workloads
- B. The existing operations monitoring tools have sufficient capacity to monitor the new VDI services
- C. The existing management cluster has enough available capacity to host any VDI service management component
- D. The management cluster has N+1 redundancy
- E. The VDI service has a higher service-level agreement (SLA) than the operations management SLA

Answer: BD

NEW QUESTION 68

An architect is reviewing a physical storage design. The customer has specified that a new active-passive based storage array will be used to provide storage for the vSphere clusters.

Which configuration should for the architect recommended?

- A. VMW_SATP_LOCAL

- B. VMW_PSP_MRU
- C. VMW_SATP_DEFAULT_AA
- D. VMW_PSP_FIXED

Answer: B

NEW QUESTION 71

An architect is designing a series of new vSphere environments for an organization. The environments will be deployed in their US-East and US-West region data centers. Each data center may have one or more dedicated vSphere environments. Only the vSphere environments within a data center will be configured with Enhanced Linked Mode. The Chief Technology Officer (CTO) has authorized the use of VMware vRealize Automation Cloud for automation. The build team creates standardized virtual machine images for various operating systems in Open Virtualization Format (OVF) and publishes the latest version on an as-needed basis to an internal HTTPS-accessible repository.

The architect must design a content library topology that meets the following requirements:

A localized content library must be available in each data center.
Each content library must be updated when an image is updated and released by the build team.
It must leverage the existing build team processes.
What should the architect recommend to meet the requirements?

- A. Work with the build team to create a local content library for each vSphere environment. Import the OVF images when new image are published to the repository.
- B. Create a local content library for the primary vSphere environment in each data center. Create a subscribed content library for each additional vSphere environment in each data center.
- C. Configure the content library to download content automatically.
- D. Work with the build team to automate a JSON-based manifest to the repository when changes occur in the repository. Create a subscribed content library for each vSphere environment.
- E. Configure the content library to download content when needed.
- F. Work with the build team to automate a JSON-based manifest to the repository when changes occur in the repository. Create a subscribed content library for each vSphere environment.
- G. Configure the content library to download content automatically.

Answer: B

NEW QUESTION 75

A customer has six hosts available in a cluster. When running at full capacity, all virtual machines can be run on two hosts.
How many hosts can the customer place into maintenance mode at the same time while still providing N+2 resiliency to the cluster?

- A. Two
- B. Three
- C. One
- D. None

Answer: A

NEW QUESTION 76

A customer requires the use of data encryption to ensure data is not accessible when a drive is removed from the primary storage platform. However, there is also a requirement to use deduplication and compression against all workloads in order to conserve space.
Which solution meets the customer requirements?

- A. Data-in-transit encryption
- B. OS-level encryption
- C. Encrypted backups
- D. Array-based encryption

Answer: D

NEW QUESTION 79

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 80

An architect is designing a new vSphere environment with the following resources:

600 vCPU

5,760 GB RAM

Average resource usage is:

60 vCPU

1,152 GB RAM

The design must meet the following requirements:

The environment has the ability to burst by 25%.

Each host can schedule 36 vCPUs and has 512 GB RAM.

Management overhead is 20%.

What is the minimum number of hosts required to meet the design requirements?

- A. Three
- B. Five
- C. Four
- D. Two

Answer: D

NEW QUESTION 84

An architect is tasked with designing a new VMware software-defined data center (SDDC) using VMware vSAN. The architect uses a storage assessment tool to determine the storage requirements for the new vSAN cluster. The new SDDC is going to be deployed into the existing data center and must be connected to a

shared core network switch.

The architect decides to use vSAN ReadyNodes with the following configuration:

Two disk groups with:

Write Intensive NVMe 800 GB drive for cache

Four 3.84 TB Mixed Use NVMe for capacity

Four 10 GbE ports

Which element represents a risk that should be included in this design?

- A. The number of 10 GbE capable ports in the vSAN ReadyNode
- B. The use of vSAN ReadyNodes
- C. The existing network is 10 GbE capable
- D. The use of NVMe drives for cache and capacity

Answer: C

NEW QUESTION 89

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 94

Which two statements are true about gathering functional business and application requirements? (Choose two.)

- A. It focuses on functional requirements with C-level stakeholders
- B. It leverages a single set of QUESTION NO:s for all stakeholders
- C. It might require multiple rounds of stakeholder interviews
- D. It builds stakeholder consensus
- E. It is a non-iterative process

Answer: AC

NEW QUESTION 98

As part of a requirements gathering workshop, the customer provides the following requirements for the design of a new greenfield virtual infrastructure:

Some applications have a latency that must be less than 5 minutes.

The solution must be able to support a workload growth rate of 10% per year. Which requirement classification is being gathered for the design documentation?

- A. Performance
- B. Manageability
- C. Recoverability
- D. Availability

Answer: A

NEW QUESTION 99

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