

Exam Questions 3V0-21.21

Advanced Design VMware vSphere 7.x

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NEW QUESTION 1

An architect is reviewing a physical storage design. The customer has specified that storage DRS will be used for ease of operational management for capacity and performance.

Which recommendation should the architect include in the design?

- A. Create smaller datastores to balance space with Storage DRS
- B. Use a larger number of storage profiles (varied disk speeds and RAID levels) to improve performance
- C. Create larger datastores to balance space with Storage DRS
- D. Create more datastores within each Storage DRS cluster to balance space and performance

Answer: D

NEW QUESTION 2

A customer requests a review of its current vSphere platform design.

The following information is noted:

There are three different workload profiles for the virtual machines:

Tier-1 virtual machines operate resource-intensive applications and require dedicated allocations for CPU and RAM.

Tier-2 virtual machines operate internet-facing applications and require access to externally facing networks.

Tier-3 virtual machines operate platform management tools such as vCenter Server and have different lifecycle management requirements.

Tier-1, Tier-2 and Tier-3 virtual machines are all hosted on a single large vSphere cluster.

The Chief Information Security Officer (CISO) has raised concerns that hosting externally facing applications alongside management tools does not meet internal compliance standards.

The Operations team has raised concerns about Tier-1 virtual machines negatively impacting the performance of vCenter Server.

The Operations lead has stated that management changes have consistently been rejected by application teams.

As a result of the review, which recommendation should the architect make regarding the design of this platform?

- A. Separate Tier-1, Tier-2 and Tier-3 virtual machines using dedicated distributed virtual switches (DVS)
- B. Separate Tier-2 virtual machines onto a dedicated cluster
- C. Separate Tier-1, Tier-2 and Tier-3 virtual machines onto dedicated clusters
- D. Separate Tier-1, Tier-2 and Tier-3 virtual machines using resource pools and shares

Answer: C

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

A customer is deploying a new cluster and wants to be able to patch and update two hosts in parallel. The cluster must be able to maintain N+1 resiliency across the remaining hosts while patching activities are performed. The current expected utilization of the platform requires a minimum of two hosts to support all of the virtual machines.

What is the minimum number of hosts the customer will require in the cluster in order to meet the required resiliency level?

- A. Five
- B. Six
- C. Four
- D. Seven

Answer: A

NEW QUESTION 6

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 7

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 networkUse 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 networkUse 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_01Use 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 networkCreate a link aggregation group (LAG) for vDS_02

Answer: A

NEW QUESTION 8

An architect is designing a new backup solution for a vSphere platform that has been recently upgraded to vSphere 7.

The architect wants the backup solution to perform the following:

- Full virtual machine image backup and restore
- Incremental virtual machine image backup and restore
- File level backup and restore within both Windows and Linux virtual machines
- LAN-free backup

Which functional requirement should the architect include in the design of the new backup solution?

- A. The backup solution must leverage the VMware Consolidated Backup (VCB) framework.
- B. The backup solution must leverage virtual machine snapshots.
- C. The backup solution must leverage VMware vSphere Storage APIs - Data Protection.
- D. The backup solution must leverage VMware vStorage APIs for Data Protection (VADP).

Answer: C

NEW QUESTION 9

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

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 10

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 12

An architect is preparing a design for a company planning digital transformation. During the requirements gathering workshop, the following requirements (REQ) and constraints (CON) are identified:

- REQ01 The platform must host different types of workloads including applications that must be compliant with internal security standard.
- REQ02 The infrastructure must initially run 100 virtual machines.
- REQ03 Ten of the virtual machines must be compliant with internal security standard.
- CON01 The customer has already purchased the licenses as part of another project.
- CON02 The customer has five physical servers that must be reused.

Additionally, based on resource requirements, four physical servers will be enough to run all workloads. Which recommendation should the architect make to meet requirements while minimizing project costs?

- A. Use Network I/O Control to ensure the internal security zone has higher share value
- B. Purchase additional servers and plan separate, isolated clusters for workloads that must be compliant with internal security
- C. Use a single cluster and ensure that different security zones are separated at least with dedicated VLANs and firewall
- D. Use a single cluster and configure DRS anti-affinity rules to ensure internal security compliant virtual machines cannot migrate between ESXi hosts.

Answer: C

NEW QUESTION 17

During a requirements gathering workshop, the customer provides the following requirement that is pertinent to the design of a new vSphere environment:

The Maximum Tolerable Downtime (MTD) for all Tier 1 applications is one hour. Which requirement classification is being gathered for the design documentation?

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

Answer: C

NEW QUESTION 21

The storage team at an organization is planning to migrate from an older Fibre Channel storage environment to a new environment using IP-based storage. Which two switch features or characteristics are appropriate for IP storage networks? (Choose two.)

- A. Fabric extending devices
- B. Spanning Tree Protocol (STP)
- C. 2:1 or greater bandwidth oversubscription for 10 GbE switches
- D. Non-blocking switch
- E. Deep or ultra buffered switches

Answer: DE

Explanation:

<https://www.arista.com/en/solutions/ip-storage-network-infrastructures>

NEW QUESTION 22

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 23

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 25

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

NEW QUESTION 28

There is a request for approved virtual machine applications through a new vSphere platform's integrated automation portal. The platform was built following all provided company security guidelines and has been assessed against Sarbanes-Oxley Act of 2002 (SOX) regulations.

The platform has the following characteristics:

vRealize Operations is being used to monitor all clusters.

There is a dedicated ESXi cluster, supporting all management services.

All network traffic is via distributed virtual switches (DVS). There is a dedicated ESXi cluster for all line-of-business applications.

Network traffic is serviced by NSX-T.

There is a dedicated ESXi cluster for virtual desktop infrastructure (VDI).

Network traffic is serviced by NSX-T.

The application owner is requesting approval to install a new service that must be protected as per the Payment Card Industry (PCI) Data Security Standard.

Which additional non-functional requirement should the architect include in the design to support the new service?

- A. The vSphere hosting platform and all PCI application virtual machines must be assessed against Payment Card Industry (PCI) Data Security Standard compliance.
- B. The vSphere hosting platform and all PCI application virtual machines must be assessed for SOX compliance.
- C. The vSphere hosting platform and all PCI application virtual machine network traffic must be routed via NSX-T.
- D. The vSphere hosting platform and all PCI application virtual machines must be monitored using the vRealize Operations Compliance Pack for Payment Card Industry.

Answer: A

NEW QUESTION 33

The architect for a large enterprise is tasked with reviewing a proposed design created by a service partner. Which design elements are expected to be detailed within the physical design section of the documentation?

- A. A design diagram illustrating the configuration and specific attributes, such as IP addresses
- B. A list of requirements, constraints, and risks
- C. A solution architecture diagram with the components and data flow
- D. An entity relationship diagram describing upstream and downstream dependencies for specific service components

Answer: B

NEW QUESTION 37

An architect is designing a new VMware solution for a customer that has a number of different resource profiles.

The following are the business requirements for the design:

The solution must support virtual machines with the following storage profiles:

- Write-intensive
- Backup
- Write-Once-Read-Many (WORM) archive

The solution must support migration of virtual machine disks between storage profiles.

The WORM archive data must be located at an isolated secure site.

The backup storage array must only be connected to a backup media server.

All data should be recoverable from backup.

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

- 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

NEW QUESTION 40

An architect is preparing a design for a customer. Based on requirements, the architect recommends an HCI- based infrastructure with all-flash architecture.

During the assessment, it is confirmed that the network throughput generated by virtual machines does not exceed 150 Mb/s.

What is the minimum number and type of network adapters in each server that the architect can recommend to ensure requirements are met and there is no single point of failure?

- A. Two 1 GbE network adapters per server
- B. Four 1 GbE network adapters per server
- C. Four 10 GbE network adapters per server
- D. Two 10 GbE network adapters per server

Answer: C

NEW QUESTION 42

Refer to the exhibit.

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

The customer wants database application level availability to always take precedence. What should the architect recommend to meet the customer's requirement?

- A. Enable vSphere HA and add a VM Override with VM Restart Priority set to Highest.
- B. Enable Fault Tolerance.
- C. Enable Sphere HA and maintain the default settings.
- D. Enable vSphere HA and add a VM Override with VM Restart Priority set to Lowest.

Answer: D

NEW QUESTION 47

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 52

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.respectvmvmantiaffinityrules` 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 56

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 61

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 64

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 65

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 the architect recommended?

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

Answer: B

NEW QUESTION 67

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 69

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

- A. The vSphere platform must be able to provide a recovery time objective of 30 minutes
- B. The vSphere platform must be able to provide a minimum throughput of 400 MB/s
- C. The vSphere platform must be able to provide N+1 redundancy
- D. The vSphere platform must be able to provide a maximum read latency of 15 ms
- E. The vSphere platform must be able to provide a service-level agreement (SLA) of 99,9%

Answer: BD

NEW QUESTION 72

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 76

A new vSphere platform is being created. The platform will host virtual machines that will run management services and line-of-business applications.

What should the architect consider when designing the number and type of clusters required?

- A. Maximum tolerable downtime
- B. Predicted platform growth
- C. Auditing requirements for the virtual machines
- D. The level of isolation required between virtual machine classifications

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 81

An architect is designing a VMware software-defined data center (SDDC) solution based on the following customer requirements:

The solution must initially support 1,000 virtual machines

The solution must scale to support the concurrent running of up to 5,000 virtual machines

The production environment should be delivered across two data centers

The solution should have a maximum tolerable downtime (MTD) of four hours

The solution should have a monthly service availability target of 99.8%

Which two assumptions could the architect make based on the information from the customer to help size the solution? (Choose two.)

- A. The number of vSphere hosts in a cluster
- B. The average resource utilization of a virtual machine
- C. The size (CPU/RAM/storage) of the average virtual machine
- D. The guest operating system for each virtual machine
- E. The size (CPU/RAM/storage) of the vSphere hosts

Answer: AE

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 86

An architect is planning the physical server configuration for a vSAN-based infrastructure.
Which operations mode should a RAID controller support to minimize potential server downtime during physical disk failures?

- A. RAID controller with Passthru mode
- B. RAID controller with RAID 5 mode
- C. RAID controller with RAID 10 mode
- D. RAID controller with RAID 6 mode

Answer: D

NEW QUESTION 87

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