Vendor: VMware

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Exam Name: VMware vSphere 8.x Advanced Design

Version: DEMO

QUESTION 1
Following a review of security requirements, an architect has confirmed the following requirements:

REQ001 - A clustered firewall solution must be placed at the perimeter of the hosting platform, and all ingress and egress network traffic will route via this device.
REQ002 - A distributed firewall solution must secure traffic for all virtualized workloads.
REQ003 - All virtualized workload, hypervisor, firewall and any management component system events must be monitored by security administrators.
REQ004 - The hosting platforms security information and event management (SIEM) system must be scalable to 20,000 events per second.
REQ005 - The hosting platforms storage must be configured with data-at-rest encryption.
REQ006 - The hosting platform limits access to authorized users.

Which three requirements would be classified as technical (formerly non-functional) requirements? (Choose three.)

A. A clustered firewall solution must be placed at the perimeter of the hosting platform, and all ingress and egress network traffic will route via this device.
B. A distributed firewall solution must secure traffic for all virtualized workloads.
C. The hosting platforms security information and event management (SIEM) system must be scalable to 20,000 events per second.
D. The hosting platforms storage must be configured with data-at-rest encryption.
E. The hosting platform limits access to authorized users.
F. All virtualized workload, hypervisor, firewall and any management component system events must be monitored by security administrators.

Answer: ACD
Explanation:
A clustered firewall solution must be placed at the perimeter of the hosting platform, and all ingress and egress network traffic will route via this device:
This is a technical requirement because it specifies how network traffic is to be managed through a specific infrastructure element (the firewall). It outlines how the security device is implemented in the network architecture.

The hosting platform's security information and event management (SIEM) system must be scalable to 20,000 events per second:
This is a technical requirement because it deals with the scalability and performance of the SIEM system. It specifies how the system must handle a large volume of data, which is a technical characteristic of the infrastructure.

The hosting platform's storage must be configured with data-at-rest encryption:
This is also a technical requirement because it defines how the data should be stored securely, which is an implementation detail. It specifies that encryption needs to be applied to stored data, a feature related to storage infrastructure.

QUESTION 2
An architect is designing a solution for a customer to meet the following business objectives:

- Pass compliance audits
- Reuse compute hardware
- Grow by 10% per year
- Move to a subscription-based consumption model

Which business objective translates as a conceptual model constraint?

A. Pass compliance audits
B. Reuse compute hardware
C. Move to a subscription-based consumption model
D. Grow by 10% per year

Answer: A
Explanation:
This is the business objective that translates to a conceptual model constraint, as it is an external requirement that must be met by the system design, influencing how the architecture should be shaped. Compliance audits often dictate specific standards, security, and operational procedures that must be adhered to, which restricts the design choices in terms of governance and best practices.

QUESTION 3
A company is expanding and will be deploying new vSphere environments in multiple new locations. All environments use datastores backed by multiple storage technologies and vendors.

How can the architect create a design to efficiently and repeatedly distribute existing company virtual machine (VM) templates to multiple new locations?

A. Use storage array replication tools to replicate the storage volume holding the company VM templates to each remote site.
B. Upload company templates to a cloud provider and download to each new location.
C. Create a published content library and have the new locations subscribe to it.
D. Create a local content library at each site and manually copy only needed templates.

Answer: C
Explanation:
This option allows for a centralized repository of VM templates that can be efficiently and repeatedly distributed to multiple locations. By creating a published content library, you enable the new locations to subscribe to this library, ensuring that the templates are synchronized and easily accessible. This approach minimizes manual effort and ensures consistency across all sites.

QUESTION 4
An architect is documenting the design decisions for a new vSphere solution. The following design decision has been made:

Create a separate vSphere cluster for the management workloads

What could the architect include as justification for this design decision?

A. This increases operational overhead as multiple clusters are required for management and compute workloads.
B. This increases capital expenditure as hardware must be purchased for multiple clusters.
C. This ensures that compute workloads have no impact on the management workloads.
D. This ensures that compute workloads have no impact on the management workloads.

Answer: C
Explanation:

Creating a separate vSphere cluster for management workloads ensures that these workloads, which are critical for monitoring, managing, and orchestrating the environment, do not compete for resources with compute workloads. This separation enhances the stability and reliability of management functions, even during periods of high resource utilization by compute workloads.

QUESTION 5
An architect is tasked with designing a repeatable edge hosting solution using VMware technologies that can be deployed to existing hotels across the world and operate independently of other locations.

During interviews with stakeholders, the architect notes the following information:

- There are 123 hotels in total.
- All hotels have a minimum of two 1 Gbps connections for guest Internet access.
- The company operates hotels in four countries: Canada, USA, Cuba and Mexico.
- The company is rebranding the hotels located in Mexico.

Which of these is a business factor that will impact this design?

A. The company is rebranding the hotels located in Mexico.
B. The company operates hotels in four countries: Canada, USA, Cuba and Mexico.
C. There are 123 hotels in total
D. All hotels have a minimum of two 1 Gbps connections for guest Internet access.

Answer: A
Explanation:
This is a business factor that will impact the design because rebranding the hotels in Mexico could lead to changes in the company's requirements, such as the need for new branding, updated infrastructure, or integration of new services. These factors will influence the design decisions related to the edge hosting solution, potentially requiring special configurations or considerations for these locations.

QUESTION 6
The following is a list of requirements from a discovery workshop for a new VMware hosting platform system design:

REQ001 - The architecture must support recoverability to the VMware Cloud Disaster Recovery (VCDR) service.
REQ002 - The architecture must support high availability (HA) and fault tolerance (FT).
REQ003 - The architecture must support reducing existing energy consumption and carbon footprint.
REQ004 - The architecture must provide support for network virtualization using distributed virtual switches.

Which requirement would be classified as a business (formerly functional) requirement?

A. The architecture must support high availability (HA) and fault tolerance (FT).
B. The architecture must support reducing existing energy consumption and carbon footprint.
C. The architecture must support recoverability to the VMware Cloud Disaster Recovery (VCDR) service.
D. The architecture must provide support for network virtualization using distributed virtual switches.

Answer: B

Explanation:
This is a business requirement because it aligns with corporate sustainability goals, focusing on reducing environmental impact. It is a high-level goal that can drive design decisions but is not directly related to the technical function or features of the system.

QUESTION 7
An architect is working on a new VMware vSphere design and notes the following information during interviews with stakeholders:

- The company has previously worked with multiple VMware partners
- The company has an internal security policy that is referenced in long running contracts
- The company has an Enterprise License Agreement (ELA) with VMware
- The company has a multi-year cloud subscription agreement

Which of these is a business factor that will impact this design?

A. The company has previously worked with multiple VMware partners.
B. The company has an Enterprise License Agreement (ELA) with VMware.
C. The company has an internal security policy that is referenced in long running contracts.
D. The company has a multi-year cloud subscription agreement.

Answer: B
Explanation:
The Enterprise License Agreement (ELA) is a business factor that will impact the design because it defines the licensing structure, which directly influences the solution's cost, scalability, and use of VMware products. The ELA could provide benefits such as discounted licensing costs, a predefined set of VMware products, or specific terms and conditions that must be adhered to in the design.

QUESTION 8
An architect is designing an upgrade to an existing vSphere environment. The project has been created to provide options for enabling growth and scalability, without increasing the data center footprint. The CIO has also tasked the architect with updating data protection operations, from the current agent-based backup approach.

During a workshop with key stakeholders, the following information has been noted:

- The existing vSphere environment uses an external fibre attached storage array for the vSphere environment
- The storage array is connected via 4 Gbps fibre cards host bus adaptors (HBAs)
- The storage array does not support VMware Storage APIs--Data Protection (VADP)
- The architecture must support scaling virtual machines CPU, memory, and storage
- The environment will grow by an additional 20% virtual machines year over year
- Only two additional racks of equipment can be provisioned

Which design choice will meet these requirements?

A. The architecture will extend the Fibre Channel external storage array, scaling out storage and compute by buying additional storage or server capacity as required.
B. The architecture will replace the Fibre Channel storage array with an updated model, scaling out storage capacity as required.
C. The architecture will be based on vSAN Ready Nodes, scaling out storage and compute by buying additional hyper-converged servers as required.

D. The architecture will be based on stretched vSAN Ready Nodes, scaling out storage and compute by buying additional hyper-converged servers as required.

Answer: C
Explanation:
This option aligns with the requirements for growth, scalability, and updating data protection operations. Using vSAN (Virtual SAN) Ready Nodes provides a hyper-converged infrastructure that combines storage and compute resources into a single platform, making it easy to scale both compute and storage without increasing the data center footprint. It also eliminates the need for traditional external storage arrays and allows for better data protection capabilities compared to the agent-based approach.

QUESTION
An architect is responsible for extending the hosting design for a customer. The customer has a mission-critical 3-node application which is load balanced in an active/active/passive configuration. The application administrator requests that the virtual infrastructure team be responsible for maintaining platform level availability. An organizational policy exists to mandate the highest possible availability for mission-critical applications.

Based on the resource requirements, the architect has made the following design decision:

The target vSphere cluster contains three VMware ESXi host servers

A combination of which additional four physical design decisions should the architect make to maximize availability of the application? (Choose four.)

A. The solution will create a VM-Host Affinity rule that specifies that workloads must run on hosts in a group.
B. The solution will enable vSphere High Availability (HA) with restart priority set to "Highest" for the application virtual machines.
C. The solution will create a VM-VM Affinity rule to keep virtual machines separate.
D. The solution will create a host DRS group containing all hosts within the cluster.
E. The solution will enable vSphere Fault Tolerance with vSphere High Availability (HA) virtual machine component failure enabled.
F. The solution will create a virtual machine DRS group that contains all of the critical application workloads.
G. The solution will create a VM-VM Affinity rule to keep virtual machines together.

Answer: ABEF
Explanation:
The solution will create a VM-Host Affinity rule that specifies that workloads must run on hosts in a group.
Creating a VM-Host Affinity rule ensures that specific workloads are restricted to certain hosts, which can be useful to avoid placing critical applications on hosts that may not meet their availability requirements.

The solution will enable vSphere High Availability (HA) with restart priority set to "Highest" for the application virtual machines.
Enabling vSphere HA ensures that virtual machines are automatically restarted on other hosts in the event of a host failure. Setting the restart priority to "Highest" for mission-critical VMs ensures that these VMs will have the highest priority for restart if any issues arise.

The solution will enable vSphere Fault Tolerance with vSphere High Availability (HA) virtual machine component failure enabled.

Enabling vSphere Fault Tolerance (FT) ensures that the application VMs are fully protected by creating a live shadow VM that runs in lockstep with the primary VM. In the event of a host failure, the shadow VM will take over instantly, providing continuous availability for the application.

The solution will create a virtual machine DRS group that contains all of the critical application workloads.
Creating a virtual machine DRS (Distributed Resource Scheduler) group for critical workloads ensures that these VMs are placed and migrated to the optimal hosts based on the cluster's resource requirements, improving availability and performance.

QUESTION 10
An architect is reviewing the information provided by a customer for a new vSphere solution design. The customer has stated that some of the virtual machines (VMs) that will be hosted on the new solution handle credit card information from their users as part of an online payment application, and that some of the information will need to be stored temporarily to allow transactions to be completed. Therefore, the solution must be designed to be able to mask or hash the stored information as they will need to show compliance against common industry standards that contain references to the requirements for handling sensitive information.

Which design quality is being requested by the customer?

A. Manageability
B. Performance
C. Security
D. Recoverability

Answer: C
Explanation:
The customer is requesting that the solution meet security requirements, specifically around handling sensitive information (such as credit card data). The need to mask or hash stored information for compliance with industry standards (e.g., PCI-DSS) is a security-focused design requirement. This ensures that sensitive data is protected and compliant with regulations, making security the primary design quality being requested.

QUESTION 11
Which four factors should an architect consider when calculating the number of hosts required for a new multi-site vSphere-based solution that utilizes external storage? (Choose four.)

A. The workload profile (CPU and memory) of each workload
B. The amount of resources required for virtual machine (VM) swap and VM snapshots
C. The number of existinq workloads that will be decommissioned prior to the completion of project
D. The number of existinq workloads that will be miqrated onto the new solution
E. The number of network connections per physical host server
F. The future physical location of any workloads
G. The hardware specification of the underlying infrastructure

Answer: ABDG
Explanation:
The workload profile (CPU and memory) of each workload
Understanding the CPU and memory requirements for each workload is crucial for determining the capacity needed on each host. This helps ensure that each host has sufficient resources to run the virtual machines (VMs) efficiently.

The amount of resources required for virtual machine (VM) swap and VM snapshots
VM swap files and snapshots require additional storage and compute resources. It's important to account for these resource requirements to avoid overloading the hosts or running into resource bottlenecks.

The number of existing workloads that will be migrated onto the new solution
Knowing how many workloads will be migrated allows the architect to estimate the total resource demand and determine the number of hosts required to support the migrated workloads effectively.

The hardware specification of the underlying infrastructure
The hardware specifications of the hosts, including the CPU, memory, storage, and network interfaces, play a significant role in determining how many hosts are needed to support the workloads. More powerful hardware may reduce the number of hosts required, while less capable hardware might increase the number needed.

QUESTION 12
An architect is designing a backup solution.

Which two statements should be included in the logical design for this solution? (Choose two.)

A. The database must be backed up even/ day during the maintenance window of 1:00AM and 3:00AM.
B. The network that will be used for backups will be configured to use VLAN ID 1511.
C. The bkp-nfs-01 datastore will be used for backups.
D. The company's existing backup solution will be unsupported by the third-party vendor in six months.
E. The database will be backed up using an API-based backup solution.

Answer: AE
Explanation:
The database must be backed up every day during the maintenance window of 1:00AM and 3:00AM.
This is a logical design requirement because it specifies the timing for the backup operations. It's important to define backup schedules to align with the maintenance window, ensuring minimal disruption to production workloads.

The database will be backed up using an API-based backup solution.
This is a logical design decision that specifies the method of backup. Using an API-based backup solution is a modern, efficient way to ensure consistent and application-aware backups of databases.

QUESTION 13
An architect is tasked with helping a customer develop a design that meets the following requirements:

- Must have no single point of failure
- Must include thorough standard operating procedure documentation
- Must use VMXNET3 virtual network interface card
- Must have 99.9% uptime Service Level Agreement
- Must use the latest version of VMware vSphere

Which two are considered constraints? (Choose two.)

A. Must use the latest version of VMware
B. Must have no single point of failure
C. Must use VMXNET3 virtual network interface card
D. Must include thorough standard operating procedure documentation
E. Must have 99.9% uptime Service Level Aqreement

Answer: AC
Explanation:
Must use the latest version of VMware vSphere
This is a constraint because the design must adhere to the specific requirement of using the latest version of VMware vSphere. This limits the possible versions or features that can be incorporated into the solution.

Must use VMXNET3 virtual network interface card
This is also a constraint because it mandates the use of a specific virtual network interface card (VMXNET3), restricting the design to that particular choice for network connectivity.

QUESTION 14
A company has the requirement to ensure that business-critical applications have the necessary network bandwidth to function optimally and maintain a consistent quality of service (QoS).

Which statement would be included in the conceptual design to support this requirement?

A. A distributed switch will be created and Network I/O Control will be enabled.
B. The network infrastructure must ensure secure communications and efficiently use available bandwidth.
C. Network resource pool named "bca-pool-02" is given a reservation quota of 5 Gbit/sec.
D. The distributed switch will use a minimum of 25 Gbps Ethernet.

Answer: A
Explanation:
This statement supports the requirement for ensuring that business-critical applications have the necessary network bandwidth and maintain consistent quality of service (QoS). By creating a distributed switch and enabling Network I/O Control, you can prioritize network traffic and ensure that the necessary bandwidth is allocated to critical applications, improving their performance and quality of service.

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