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Exam : HPE7-J02

Title : Advanced HPE Storage
Integrator Solutions Written
Exam

Version : DEMO

1. Select the scenario where implementing FCoE would be an appropriate solution.

A. A large enterprise data center with existing Fibre Channel SANs is looking to reduce hardware complexity and costs by consolidating their storage and production networks onto a single infrastructure, while maintaining high performance for mission-critical applications.

B. A corporation needs to replicate data between data centers in different countries. The data must be synchronized in real-time across a WAN, and the solution must tolerate variable network conditions with minimal impact on performance.

C. A company with data centers in different states wants to establish a unified SAN infrastructure. The goal is to centralize storage management across all sites, using a single protocol that can efficiently handle high-latency, long-distance connections between data centers.

D. A tech startup is developing an AI-based application that relies heavily on machine learning models. The team needs a solution that allows them to access and process large datasets in the cloud.

Answer: A

Explanation:

Detailed Explanation:

Rationale for Correct Answer

Option A is correct because Fibre Channel over Ethernet (FCoE) is designed for large enterprise environments that already have Fibre Channel (FC) infrastructures but want to simplify cabling and reduce hardware by converging LAN and SAN traffic over a single Ethernet fabric. FCoE retains the efficiency, low latency, and reliability of Fibre Channel while leveraging Ethernet to minimize physical infrastructure costs. This aligns with HPE's best practices for environments using HPE Alletra 9000/Primera or HPE Nimble arrays connected to converged networks where cost reduction and high performance are equally important.

Analysis of Incorrect Options (Distractors):

B: Real-time replication across WANs requires protocols like HPE 3PAR/Alletra Remote Copy, asynchronous/synchronous replication, or HPE Peer Persistence. FCoE is not suited for high-latency WANs because it is a LAN protocol designed for short distances within a data center.

C: For inter-data center SAN unification, FCIP (Fibre Channel over IP) or iSCSI are more suitable. FCoE does not handle long-distance high-latency links effectively.

D: A startup building AI applications with cloud workloads typically benefits from object storage (HPE Scalify RING, HPE GreenLake for File and Object) or direct cloud-native APIs (S3/Blob). FCoE is irrelevant in this use case since it is on-prem and infrastructure-focused.

Key Concept:

The question is testing knowledge of FCoE and its appropriate deployment scenarios — specifically, its role in consolidating storage and network traffic inside enterprise data centers while preserving Fibre Channel protocol advantages.

Reference: HPE Storage Networking Best Practices Guide HPE Primera/Alletra 9000 Technical White Paper

Fibre Channel over Ethernet Standards Overview (IEEE 802.1Qbb, 802.1Qaz)

2. Your customer has deployed an HPE Alletra MP B10000 array in its virtualized environment. Data protection follows 3-2-1 best practices, with snapshots on the array, Veeam v12 backups, and storage on an external HPE StoreOnce appliance. Despite this, a ransomware attack made data recovery impossible.

Your customer asks how to enhance data protection with immutability and application consistency.

What is a possible solution using HPE Virtual Lock technology?

- A. Enable Virtual Lock for each backup job inside Veeam v12
- B. Enable Virtual Lock on the VMware datastores in VMware vCenter
- C. Enable Virtual Lock on the HPE StoreOnce Catalyst stores
- D. Enable Virtual Lock on the HPE Alletra storage array

Answer: C

Explanation:

Detailed Explanation:

Rationale for Correct Answer

Option C is correct because HPE StoreOnce Virtual Lock technology provides immutability at the Catalyst store level, preventing backup data from being deleted or modified for a defined retention period. This ensures ransomware or malicious actors cannot encrypt, alter, or delete the protected backups, aligning with modern data protection requirements for immutability and compliance. In integration with Veeam v12, backups stored on StoreOnce Catalyst stores can be locked, creating an additional immutability layer beyond application-consistent snapshots. Analysis of Incorrect Options (Distractors):

A: Virtual Lock is not a Veeam feature. While Veeam v12 supports immutability on certain storage backends (object lock-enabled S3, hardened Linux repositories), HPE Virtual Lock is specific to StoreOnce Catalyst stores, not Veeam job settings.

B: VMware vCenter datastores do not have a native immutability feature. Snapshots in vCenter can be deleted or corrupted during ransomware events, making this option incorrect.

D: HPE Alletra arrays support application-consistent snapshots and replication, but they do not provide the immutability guarantee that StoreOnce Virtual Lock enforces. Array-level snapshots can still be deleted if admin credentials are compromised.

Key Concept:

This question targets knowledge of HPE StoreOnce Virtual Lock — a feature designed to enforce immutability on Catalyst backup stores, making backup data resistant to deletion or alteration during ransomware or insider attacks.

Reference: HPE StoreOnce Systems Technical White Paper

HPE StoreOnce and Veeam Integration Best Practices

HPE Data Protection Solutions for Ransomware Resilience Guide

3.You are troubleshooting a storage environment using HPE Alletra Storage MP B10000 in a Peer Persistence configuration. A customer reports high latency when accessing data from applications. When reviewing the MPIO path status on the host, what should be the path status for connections to the storage array located in the remote data center?

- A. Active Optimized
- B. Passive
- C. Active Non-optimized
- D. Standby

Answer: C

Explanation:

Detailed Explanation:

Rationale for Correct Answer

In an HPE Peer Persistence configuration (supported on HPE Alletra MP, Primera, and 3PAR), hosts see volumes presented from arrays at both sites. For optimal load balancing and transparent failover, the local array paths are shown as “Active Optimized” while the remote array paths are marked “Active Non-optimized”. The “Non-optimized” label indicates these paths are functional but involve remote access with higher latency. This design ensures automatic transparent failover if the local site becomes unavailable.

Distractors:

A: “Active Optimized” applies only to local array paths, not remote ones.

B: Passive paths are typical of ALUA implementations without Peer Persistence, not here.

D: “Standby” is not the term used in Peer Persistence multipathing.

Key Concept: MPIO with Peer Persistence (ALUA Active/Active configuration).

Reference: HPE Primera/Alletra Peer Persistence Best Practices Guide.

4. You are meeting with a customer who wants to replace their current file storage system. You plan to recommend HPE GreenLake for File Storage. The customer asks whether the solution can provide cross-protocol access to the same data using both NFS and SMB simultaneously.

What is the impact on your design?

A. A 3rd-party SDS solution such as Qumulo or Scality should be discussed since the HPE GreenLake for File Storage does not support this

B. HPE GreenLake for File Storage supports native cross-protocol access with NFS, SMB, and S3. You must enable both protocols per share

C. This is perfectly possible with HPE GreenLake for File Storage by creating two file shares (one for each protocol) and setting up replication

D. Two different IP pools are required, one for each access protocol. The virtual IP pool address enables cross-protocol functionality

Answer: B

Explanation:

Detailed Explanation:

Rationale for Correct Answer

HPE GreenLake for File Storage, powered by VAST Data software, natively supports cross-protocol access (NFS, SMB, and S3) to the same dataset. This means a file written via NFS can be accessed via SMB or S3 without replication. For cross-protocol access, both protocols must be enabled at the share/bucket level. This is a core differentiator of HPE’s GreenLake for File Storage solution.

Distractors:

A: Wrong, because GreenLake for File Storage already has native multi-protocol support — no need for 3rd party SDS.

C: Incorrect, as replication between separate shares is not required; it is a native capability.

D: Misleading — IP pools are used for load balancing and client connectivity, but not required to enable cross-protocol access.

Key Concept: Multi-protocol access in HPE GreenLake for File Storage (NFS/SMB/S3).

Reference: HPE GreenLake for File Storage Technical Overview, VAST Data Universal Storage white papers.

5. Your organization is implementing a new high-performance computing (HPC) cluster to support advanced scientific simulations. The cluster will consist of several hundred nodes that require rapid access to shared datasets. The storage is Vast/GL4F.

The application is very sensitive to latency and minimizing CPU overhead during data transfers is critical to achieving the desired performance levels.

Which access protocol should the organization implement to enhance NFS performance by reducing storage latency and increasing I/O operations?

- A. NFS
- B. NFS over RDMA
- C. RoCE
- D. iSER

Answer: B

Explanation:

Detailed Explanation:

Rationale for Correct Answer

For HPC and AI/ML workloads, NFS over RDMA (Remote Direct Memory Access) provides significantly lower latency and reduced CPU overhead compared to standard NFS over TCP. This allows direct memory-to-memory data transfers between storage and compute nodes, bypassing the kernel network stack. In VAST Data (underpinning GreenLake for File Storage), NFS over RDMA is explicitly supported to accelerate shared dataset access in HPC and AI environments.

Distractors:

A: Standard NFS introduces more latency due to kernel TCP/IP stack overhead.

C: RoCE (RDMA over Converged Ethernet) is a transport layer technology — useful, but the protocol chosen for the file system must be NFS over RDMA, not just RoCE.

D: iSER (iSCSI Extensions for RDMA) enhances iSCSI block storage, not NFS file workloads.

Key Concept: NFS over RDMA for HPC/AI shared datasets.

Reference: HPE GreenLake for File Storage powered by VAST – HPC Deployment Guide, RDMA and NFS performance white papers.