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Exam Name: Implementation Engineer - SAN ONTAP Exam

Exam A

QUESTION 1
What Is the storage construct that enables an NVMe client to store data in an SVM?

A. Subsystem
B. Namespace
C. FlexGroup volume
D. LUN

Correct Answer: A
Section:
Explanation:
In an NVMe environment, the storage construct that enables an NVMe client to store data in an SVM (Storage Virtual Machine) is a Subsystem. A subsystem is a collection of one or more namespaces, which are used to store data. This abstraction allows for efficient management and scaling of NVMe storage within the ONTAP environment.
For further information, refer to:
NetApp NVMe/FC Configuration (NetApp).

QUESTION 2
An administrator finishes an installation of a new NetApp ASA system at the customer site and creates a new LUN. The customer wants to restrict the access of the LUN to specific UFs.
Where would the administrator configure this?

A. Zoning
B. igroup
C. Selective LUN Map
D. Portset

Correct Answer: B
Section:
Explanation:
To restrict access to a newly created LUN to specific hosts, the administrator should configure the igroup (initiator group). An igroup is used to control which initiators (hosts) are allowed to access specific LUNs. This ensures that only authorized hosts can access the storage, enhancing security and access control.
For more details, refer to:
NetApp Documentation on iGroups (NetApp).

QUESTION 3
A customer wants to enable CHAP authentication on their iSCSI sessions.
Which command should be used to set up the appropriate security policies and passwords?

A. vserver iscsi security create
B. igroup initiator modify
C. security certificate create
D. security login create

Correct Answer: A

Section:
Explanation:
To enable CHAP (Challenge-Handshake Authentication Protocol) authentication on iSCSI sessions, the command vserver iscsi security create should be used. This command sets up the necessary security policies and passwords required for CHAP authentication, ensuring secure access to iSCSI targets.
For more details, refer to:
NetApp Documentation on iSCSI Configuration (NetApp).

QUESTION 4
Which two steps must be taken first to restore a LUN from a SnapMirror Synchronous destination? (Choose two.)

A. Resync the relationship.
B. Release the relationship.
C. Delete the relationship.
D. Initialize the relationship.

Correct Answer: B, C
Section:
Explanation:
To restore a LUN from a SnapMirror Synchronous destination, the following steps must be taken:
Release the relationship: This step is necessary to break the SnapMirror relationship, allowing the LUN to be restored independently.
Delete the relationship: After releasing the relationship, deleting it ensures that there are no residual dependencies or configurations that might interfere with the restore process.
For more information, refer to:
NetApp Documentation on SnapMirror Synchronous (NetApp) (NetApp).

QUESTION 5
An administrator configured an SVM with LUNs with two WWPNs per node. The administrator accidentally created a WWPN on node1 that needs to move to node2. The SAN hosts use ALUA.
Based on this requirement, what must be taken offline to correct the situation?

A. LIF
B. LUN
C. SVM
D. Volume

Correct Answer: A
Section:
Explanation:
To move a WWPN from node1 to node2 in a NetApp ONTAP SAN environment where ALUA is used, you must take the Logical Interface (LIF) offline. Modifying LIFs involves changing their assignment between nodes, which requires them to be temporarily offline. This ensures that the path states are correctly updated without causing disruption to the SAN hosts.
For more details, see:
NetApp Community on Moving LIFs
NetApp Documentation on SAN LIFs

QUESTION 6
A customer Is setting up a four-node NetApp AFF cluster for use with NVMe/TCP and wants to use automatic host discovery.
Which protocol is used for the discovery of controllers?

A. TFTP
B. mDNS

C. LLDP
D. PXE

Correct Answer: B
Section:
Explanation:
For automatic host discovery in a four-node NetApp AFF cluster using NVMe/TCP, the protocol used is mDNS (Multicast DNS). mDNS allows for the discovery of controllers and other networked devices without the need for a centralized DNS server, simplifying the setup process in environments that support NVMe over TCP.
For further information, refer to:
NetApp Documentation on NVMe/TCP
NetApp Community on Host Discovery

QUESTION 7
Which NetApp feature presents LUNs only within the HA pair?

A. Selective LUN Mapping
B. Subsystem
C. Consistency group
D. igroup

Correct Answer: A
Section:
Explanation:
Selective LUN Mapping (SLM) is the feature that presents LUNs only within the HA pair. SLM allows administrators to control which LUNs are visible to which hosts, ensuring that LUNs are only accessible through the designated HA pair, thus improving security and manageability.
For more information, see:
NetApp Documentation on Selective LUN Mapping
NetApp Community on LUN Mapping

QUESTION 8
An SVM is created for FCP traffic. LUNs must be created to share with ESXi hosts for datastores. Which two items must be configured after the LUN is created, for this to happen? (Choose two.)

A. Create an igroup with the ESXi hosts' WWPNs.
B. Create an igroup with the ESXi hosts' WWNNs.
C. Configure CHAP authentication.
D. Map the LUNs to the igroup.

Correct Answer: A, D
Section:
Explanation:
For configuring LUNs to share with ESXi hosts for datastores in an SVM created for FCP traffic, the following steps are necessary after creating the LUN:
Create an igroup with the ESXi hosts' WWPNs: This step involves defining an initiator group that includes the WWPNs of the ESXi hosts that need access to the LUN.
Map the LUNs to the igroup: This step assigns the LUN to the created igroup, allowing the ESXi hosts to access the LUN.
For further details, refer to:
NetApp Documentation on LUN and igroup Configuration

QUESTION 9
An administrator needs to ensure that Snapshot copies of database files across multiple FCP LUNs are taken at the same point in time.

Which two configurations enable the administrator to achieve this? (Choose two.)

A. Create each LUN within the same FlexVol volume.
B. Create a consistency group that uses FlexGroup volumes.
C. Create a consistency group that uses FlexVol volumes.
D. Create each LUN within the same FlexGroup volume.

Correct Answer: C, D
Section:
Explanation:
To ensure that Snapshot copies of database files across multiple FCP LUNs are taken at the same point in time, the following configurations can be used:
Create a consistency group that uses FlexVol volumes: This setup ensures that snapshots of all volumes in the consistency group are taken simultaneously.
Create each LUN within the same FlexGroup volume: This configuration allows for a unified snapshot across multiple LUNs within the FlexGroup, ensuring data consistency.
For more details, see:
NetApp Documentation on Consistency Groups
NetApp FlexGroup Overview

QUESTION 10
Which two NetApp features provide synchronous data replication between two sites for SAN workloads with automatic failover in case of a site disaster? (Choose two.)

A. SnapMirror active sync
B. SnapMirror SVM
C. SnapMirror Synchronous
D. MetroCluster IP

Correct Answer: C, D
Section:
Explanation:
For synchronous data replication between two sites with automatic failover in case of a site disaster for SAN workloads, the two NetApp features that provide these capabilities are SnapMirror Synchronous and MetroCluster IP.
SnapMirror Synchronous: This feature provides volume-granular, synchronous replication with zero RPO (Recovery Point Objective), ensuring that data is mirrored in real-time to a secondary site. This setup supports automatic failover, maintaining data availability even during site failures
MetroCluster IP: This solution provides synchronous replication and combines high availability and disaster recovery capabilities. MetroCluster IP uses IP networking to extend the distance over which replication can occur and supports automatic failover and failback, making it suitable for critical SAN workloads

QUESTION 11
An administrator runs the vserver nvme namespace convert-from-iun command on a NetApp ASA cluster to increase host performance.
What is modified by the convert command?

A. FlexVol
B. FlexClone
C. LUN clone
D. Metadata

Correct Answer: D
Section:
Explanation:
The vserver nvme namespace convert-from-lun command in a NetApp ASA cluster is used to convert a LUN to an NVMe namespace to increase host performance. This process involves modifying the metadata of the storage

object to make it compatible with the NVMe protocol, allowing for faster access and reduced latency

QUESTION 12
A healthcare customer wants to Implement an FC SAN solution consisting of a NetApp ONTAP system, Broadcom switches, and servers.
Which tool contains detailed blueprints and implementation references that can be used to design this solution?

A. NetApp Fusion
B. NetApp Verified Architecture
C. NetApp Active IQ Config Advisor
D. NetApp Active IQ Unified Manager

Correct Answer: B
Section:
Explanation:
The correct tool for designing an FC SAN solution consisting of a NetApp ONTAP system, Broadcom switches, and servers is the 'NetApp Verified Architecture' (NVA). The NetApp Verified Architecture provides comprehensive blueprints and detailed implementation references. These blueprints are thoroughly tested, prescriptive in nature, and designed to minimize deployment risks and accelerate time to market. They are specifically designed to help ensure that the architecture meets the high standards required for enterprise environments.
NVA documents include design guides, best practices, and detailed configuration steps, making them invaluable for planning and deploying complex solutions like the one described.
For more information, you can refer to the official NetApp documentation on NetApp Verified Architectures:
NetApp Verified Architecture Program Summary
NetApp Verified Architecture Overview
These resources provide detailed insights into the architecture, including technology requirements, deployment procedures, and additional references for further reading.

QUESTION 13
An administrator is setting up a NetApp ONTAP AFF system for both NVMe/TCP and iSCSI. Which task is required for SAN configuration?

A. Configure CHAP authentication.
B. Configure DH-HMAC-CHAP authentication.
C. Configure LIFs.
D. Configure IPsec.

Correct Answer: C
Section:
Explanation:
When setting up a NetApp ONTAP AFF system for both NVMe/TCP and iSCSI, a critical task required for SAN configuration is to configure Logical Interfaces (LIFs). LIFs are necessary for network connectivity and are used by both NVMe/TCP and iSCSI protocols to communicate between the storage system and the host.
The configuration of LIFs involves creating and managing these interfaces to ensure they are correctly mapped and available for use by the respective protocols. This step is essential for the SAN setup to function properly.
For more detailed steps on configuring LIFs, you can refer to NetApp's documentation:
How to Configure NVMe/TCP with ONTAP (NetApp Community).
SAN Configuration with ONTAP (NetApp).

QUESTION 14
An administrator has a NetApp AFF cluster with two SVMs serving LUNs. SnapMirror active sync is configured, and a disaster recovery test is planned over the weekend.
Which NetApp ONTAP command will show the status of this test?

A. snapmirror failover show
B. network interface failover-groups show
C. storage failover hwassist show

D. snapnirror config-replication status show

Correct Answer: A
Section:
Explanation:
To check the status of a SnapMirror active sync disaster recovery test on a NetApp ONTAP cluster, you would use the command snapmirror failover show. This command provides the necessary details about the failover status, helping administrators verify if the disaster recovery test is proceeding as expected. It displays the status of the failover groups and their readiness, which is essential for confirming the effectiveness of the disaster recovery setup.
For more detailed information on SnapMirror commands and their usage, refer to:
NetApp Documentation - SnapMirror Commands (NetApp Community) (NetApp Community).

QUESTION 15
What configuration must be applied for NVMe/FC?

A. Create multiple initiator zones and multiple target zones.
B. Configure igroup and IQN mapping.
C. Enable NPV on all fabric switches.
D. Enable NPIV on all fabric switches.

Correct Answer: D
Section:
Explanation:
When configuring NVMe/FC (NVMe over Fibre Channel), it is necessary to enable N_Port ID Virtualization (NPIV) on all fabric switches. NPIV allows multiple Fibre Channel initiators to share a single physical Fibre Channel port, which is crucial for NVMe/FC environments where efficient utilization of available ports is needed.
NPIV support enables the creation of virtual ports, which can significantly optimize the configuration and management of Fibre Channel fabrics, thus supporting NVMe/FC operations.
For further details, you can refer to:
NetApp Community - NVMe/FC Configuration (NetApp Community).
NetApp Documentation - NVMe Overview (NetApp).

QUESTION 16
A storage administrator has just completed an ISCSI implementation in a customer environment running VMware and needs to validate that the entire network path supports jumbo frames.
Which action should be taken?

A. Ping from the host with fragmentation.
B. Check the VMkernel adapter settings.
C. Ping from the host without fragmentation.
D. Check the broadcast domain settings.

Correct Answer: A
Section:
Explanation:
To validate that the entire network path supports jumbo frames after an iSCSI implementation, you should perform a ping test from the host with fragmentation. This involves using the ping command with specific options to test jumbo frame support:
ping -M do -s 8972 <target_IP>
In this command:
-M do ensures the packets are not fragmented.
-s 8972 sets the packet size to 8972 bytes (9000 bytes MTU minus 28 bytes for the ICMP header).
By confirming that the large packets are successfully transmitted without fragmentation, you can validate that the network path, including switches and adapters, supports jumbo frames.
For more details, you can check:

NetApp Documentation - iSCSI Configuration and Best Practices (NetApp) (NetApp).

QUESTION 17
An administrator installs a new NetApp ONTAP system in a customer's SAN environment. The customer wants to confirm that ALUA correctly changes the path states between Active/Optimized and Active/Nonoptimized. Which event causes ALUA to change the path states?

A. Shut down all FC LIFs on the HA partner node.
B. Move the containing volume to the HA partner node.
C. Shut down one FC LIF.
D. Disconnect one FC cable on the node hosting the LUN.

Correct Answer: A
Section:
Explanation:
ALUA (Asymmetric Logical Unit Access) is a protocol used in SAN environments to manage paths between a host and its storage. It enables the host to recognize and manage paths to the LUNs more efficiently by designating paths as either 'Active/Optimized' or 'Active/Nonoptimized'. A significant event, such as shutting down all FC LIFs on the HA partner node, will trigger ALUA to change the path states. This action effectively causes the storage paths to transition from the HA partner node to the local node, switching the path states from Active/Nonoptimized to Active/Optimized on the paths that remain active.
For more information, you can refer to:
NetApp Community Discussion on ALUA
NetApp Documentation on ALUA

QUESTION 18
An engineer Is implementing a data migration scenario for a customer who has multiple FC LUNs across multiple third-party SAN arrays. The engineer wants to use Foreign LUN Import (FLI) for the migration. What is a requirement on the destination NetApp ONTAP cluster for FLI?

A. A valid SnapMirror license
B. At least one FC port in initiator mode
C. A valid NetApp XCP license
D. At least one FC port in target mode

Correct Answer: D
Section:
Explanation:
When using Foreign LUN Import (FLI) for migrating LUNs from third-party SAN arrays to a NetApp ONTAP system, one of the requirements is to have at least one Fibre Channel (FC) port configured in target mode on the destination NetApp ONTAP cluster. This configuration is necessary to facilitate the migration process as the target mode port will accept and manage incoming data from the source SAN arrays.
For additional details, refer to:
NetApp Documentation on FLI

QUESTION 19
What connectivity Is required between NetApp ONTAP clusters in order to configure SnapMirror active sync across two data centers for FC?

A. Cedicated FC switches and ISL
B. Shared FC switches
C. Cluster peering
D. Dedicated IP switches and ISL

Correct Answer: C
Section:

Explanation:
To configure SnapMirror active sync across two data centers using FC (Fibre Channel), the required connectivity between NetApp ONTAP clusters is cluster peering. Cluster peering involves establishing a trust relationship between the clusters, allowing them to replicate data seamlessly. This setup ensures that data synchronization and disaster recovery processes are effective and reliable.
For more detailed information, you can check:
NetApp Documentation on SnapMirror and Cluster Peering

QUESTION 20
What is the minimum number of rack units that are required on each site for a NetApp AFF All San Array (ASA) A800 MetroCluster IP configuration with 72 disks per site and Cisco N9K-C9336C-FX2 backend switches?

A. 16 RU
B. 8 RU
C. 12 RU
D. 4 RU

Correct Answer: A
Section:
Explanation:
For a NetApp AFF All SAN Array (ASA) A800 MetroCluster IP configuration with 72 disks per site and Cisco N9K-C9336C-FX2 backend switches, the minimum number of rack units required on each site is 16 RU. This includes space for the controllers, disk shelves, and the necessary network switches. This configuration ensures that all components are properly accommodated and operational within the specified rack space.
For detailed information on the rack unit requirements and MetroCluster IP configurations, refer to:
NetApp Documentation on MetroCluster IP
MetroCluster IP Solution Architecture

QUESTION 21
What Is modified when moving a LUN between different HA pairs in the same SVM to prevent loss of connectivity?

A. port name
B. reporting nodes
C. igroup
D. LUN mapping

Correct Answer: B
Section:
Explanation:
When moving a LUN between different HA pairs in the same SVM to prevent loss of connectivity, the reporting nodes must be modified. The reporting nodes configuration ensures that the initiator paths are properly updated to reflect the new physical location of the LUN. This prevents disruptions in connectivity by maintaining the correct pathing information for the host systems accessing the LUN.
For more details, refer to:
NetApp Documentation on LUN Management

QUESTION 22
A customer has created an SVM for their SAN workloads. They now want to configure the SVM to use NVMe/FC. Which two steps are needed to accomplish this task? (Choose two.)

A. Add the FC protocol.
B. Create the FC service.
C. Create an NVMe/FC LIF.
D. Create the NVMe service.

Correct Answer: A, C

Section:
Explanation:
To configure an SVM to use NVMe/FC, the following steps are necessary:
Add the FC protocol: This step involves enabling the Fibre Channel protocol on the SVM, which is required to support NVMe over Fibre Channel.
Create an NVMe/FC LIF: Logical Interfaces (LIFs) must be created to handle NVMe traffic over the Fibre Channel network. These LIFs enable the NVMe namespace access to the host systems.
These steps ensure that the SVM is correctly set up to use NVMe/FC, allowing for efficient and high-performance access to NVMe storage.
For more information, refer to:
NetApp NVMe/FC Configuration

QUESTION 23
A storage administrator wants to increase security and optimize performance in a recently implemented SAN deployment.
What should the storage administrator configure to ensure initiator restriction to certain LIFs?

A. Subnets
B. Network route
C. Broadcast domain.
D. Access list

Correct Answer: D
Section:
Explanation:
To increase security and optimize performance in a SAN deployment, configuring an access list is essential. Access lists restrict initiator access to specific LIFs, ensuring that only authorized hosts can connect to the storage system. This helps in enhancing security by preventing unauthorized access and optimizes performance by controlling and managing the paths used for storage access.
For additional details, you can refer to:
NetApp SAN Administration Guide

QUESTION 24
A LUN Is displaying 90% used space in the NetApp ONTAP CLI, but a Windows Server shows only 10% used space.
What is the first step to take to address this issue?

A. Enable automatic resizing.
B. Disable automatic resizing.
C. Disable space allocation.
D. Enable space allocation.

Correct Answer: D
Section:
Explanation:
When a LUN shows 90% used space in the NetApp ONTAP CLI but a Windows Server shows only 10% used space, the discrepancy is often due to how space allocation is handled between the two systems. Enabling space allocation ensures that the ONTAP system accurately reflects the actual space usage as reported by the host system, in this case, the Windows Server. This adjustment allows ONTAP to reclaim and manage space more effectively, aligning the reported usage between the ONTAP system and the host.
For more information, refer to:
NetApp Community Discussion on Space Allocation
NetApp Documentation on Space Usage

QUESTION 25
A storage administrator recently implemented ISCSI SAN in a customer environment. Which two actions should be done to ensure the best performance? (Choose two.)

A. Connect host and storage ports to the same switches.
B. Decrease the default queue depth on the host to eight.
C. Zone the host by using the host WWPNs.
D. Configure Jumbo frames In the entire data path.

Correct Answer: A, D
Section:
Explanation:
To ensure the best performance in an iSCSI SAN implementation:
Connect host and storage ports to the same switches: This minimizes latency and maximizes the efficiency of data paths by ensuring direct connections within the same network segment.
Configure Jumbo frames in the entire data path: Setting a larger Maximum Transmission Unit (MTU) size reduces the overhead for processing each packet, thus improving overall network performance. Ensuring Jumbo frames are configured end-to-end in the data path is crucial for optimal performance.
For further details, check:
NetApp Best Practices for iSCSI
NetApp Community Discussion on iSCSI Performance

QUESTION 26
After deleting a LUN, an administrator notices that the space does not show as available. What needs to be done to reclaim the space?

A. UnmaptheLUN.
B. Delete the volume snapshots.
C. Purge the recovery queue.
D. Perform space reclamation.

Correct Answer: D
Section:
Explanation:
After deleting a LUN, if the space does not show as available, performing space reclamation is necessary. Space reclamation involves identifying and reclaiming unused space on the storage system, making it available for new data. This process ensures that the deleted LUN's space is properly freed up and reflected in the available storage capacity.
For more details, refer to:
NetApp Documentation on Space Reclamation
NetApp Community on Free Space Reclamation

QUESTION 27
When using tagged VLANs on Cisco Nexus switches for NVMe over TCP, which two changes must be made to enable jumbo frames? (Choose two.)

A. Modify the Cisco Nexus switches to use an MTU of 9216.
B. Modify the appropriate broadcast domain in NetApp ONTAP software to use an MTU of 9000.
C. Modify the appropriate broadcast domain in NetApp ONTAP software to use an MTU of 9216.
D. Modify the Cisco Nexus switches to use an MTU of 9000.

Correct Answer: A, C
Section:
Explanation:
For enabling jumbo frames on Cisco Nexus switches for NVMe over TCP with tagged VLANs, the following changes are required:
Modify the Cisco Nexus switches to use an MTU of 9216: Setting the MTU to 9216 ensures that the network can handle jumbo frames, reducing the number of packets needed for large data transfers and thus improving performance.
Modify the appropriate broadcast domain in NetApp ONTAP software to use an MTU of 9216: This setting must match the network configuration to ensure end-to-end support for jumbo frames, which is essential for

optimizing performance in NVMe over TCP environments.
For additional information, refer to:
NetApp Documentation on NVMe over TCP
Cisco Documentation on Jumbo Frames

QUESTION 28
On a two-node NetApp AFF ASA cluster, what is the recommended minimum number of paths for a SAN environment from the client host perspective?

A. 2
B. 8
C. 4
D. 16

Correct Answer: C
Section:
Explanation:
In a two-node NetApp AFF ASA cluster, the recommended minimum number of paths for a SAN environment from the client host perspective is 4. This configuration ensures high availability and load balancing, which are critical for maintaining performance and resilience in a SAN environment. Each host should have at least two paths to each controller to achieve this setup.
For more detailed information, you can refer to:
NetApp SAN Configuration
NetApp All-Flash SAN Array Documentation

QUESTION 29
During expansion planning for a 10-node cluster running NetApp ONTAP 9.14.1 software, which uses SAN and NAS, how many additional nodes can be added to this cluster?

A. 4
B. 6
C. 2
D. 8

Correct Answer: B
Section:
Explanation:
NetApp ONTAP 9.14.1 supports up to a 16-node cluster for SAN and NAS configurations. Given a current 10-node cluster, you can add up to 6 additional nodes to reach the maximum supported node count. This expansion capability ensures scalability for growing storage needs while maintaining high availability and performance.
For more information, refer to:
NetApp Storage Limits Documentation (NetApp)

QUESTION 30
Which feature enables simultaneous snapshots of multiple LUNs In different volumes?

A. Single File SnapRestore
B. Failover groups
C. Consistency groups
D. SyncMirror

Correct Answer: C
Section:

Explanation:
The feature that enables simultaneous snapshots of multiple LUNs in different volumes is Consistency Groups. This feature ensures that snapshots taken across different LUNs and volumes are consistent with each other, making it possible to recover a consistent state across multiple storage objects.
For further information, refer to:
NetApp Documentation on Consistency Groups

QUESTION 31
A NetApp AFF node in a four-node cluster has a single FC port on one node, which Is used for legacy tape backup. Tape is no longer needed, and the port is disconnected and modified for reuse in the FCP SAN.
Based on this change, which command will verify that the port is usable?

A. network interface show
B. lun persistent-reservation show
C. syszem node hardware unified-connect show
D. vserver fcp initiator show

Correct Answer: C
Section:
Explanation:
To verify that a modified FC port is usable after it has been repurposed from tape backup to FCP SAN, the command system node hardware unified-connect show should be used. This command checks the status and configuration of the unified connect hardware, ensuring that the port is correctly set up for the new function in the SAN environment.
For additional details, see:
NetApp Command Reference

QUESTION 32
A customer requires multiple SAN and NAS protocols on a NetApp AFF cluster. The cluster must concurrently serve a namespace over NVMe/FC, a LUN over FCP, a LUN over iSCSI, and an NFS export.
Based on these requirements, what is the minimum data SVM count that is required?

A. 3
B. 4
C. 1
D. 2

Correct Answer: C
Section:
Explanation:
To concurrently serve a namespace over NVMe/FC, a LUN over FCP, a LUN over iSCSI, and an NFS export, only one data SVM (Storage Virtual Machine) is required. NetApp ONTAP allows a single SVM to support multiple SAN and NAS protocols simultaneously, enabling efficient and consolidated management of storage resources.
For more information, refer to:
NetApp Documentation on SVM Configuration
NetApp SVM Best Practices

QUESTION 33
A customer needs to verify if jumbo frames have been configured correctly for an ISCSI workload. Which command should be used?

A. pig -lif <1IF> -vserver <SVM> -destination <IP> -disallow-fragmentation false -packet-size 1500
B. pig -lif <---F> -vserver <SVM> -destination <IP> -disallow-fragmentation true -packet-size 9000
C. pig 'lif <LIF> -vserver <svm> -destination <ip> -disallow- fragmentation true -packet-size 8900
D. ping -lif <LIF> -vserver <SVM> -destination <IP> -disallow- fragmentation true -packet-size 1500

Correct Answer: B
Section:
Explanation:
To verify if jumbo frames have been configured correctly for an iSCSI workload, the command ping -lif <LIF> -vserver <SVM> -destination <IP> -disallow-fragmentation true -packet-size 9000 should be used. This command tests the network path with the jumbo frame size (9000 bytes) and ensures that the packets are not fragmented, confirming that jumbo frames are supported end-to-end.
For more details, you can check:
NetApp Documentation on iSCSI Configuration
NetApp Community Discussions on Jumbo Frames

QUESTION 34
An administrator runs the lun igroup show -insrar.ee command on a NetApp ONTAP SAN.

The output lists the following:

```
Protocol:   fcp
Initiators: server1.netapp.com
```

Based on the output, what is the initiator type?

A. NQN
B. WWNN
C. IQN
D. WWPN

Correct Answer: D
Section:
Explanation:
Based on the output of the command lun igroup show -instance, which lists the protocol as fcp and the initiator as server1.netapp.com, the initiator type is WWPN (World Wide Port Name). In Fibre Channel Protocol (FCP) environments, WWPNs are used to uniquely identify Fibre Channel devices. This contrasts with IQNs used in iSCSI, and NQNs used in NVMe over Fabrics.
For more details, refer to:
NetApp Documentation on Initiators

QUESTION 35
A storage engineer is required to provide NetApp site design documentation to show that the NetApp ONTAP SAN solution was delivered as intended.
Which NetApp tool can the storage engineer use to automate the creation of a difference report?

A. NetAppDocs
B. Active IQ OneCollect
C. Active IQ Config Advisor
D. Harvest

Correct Answer: B
Section:
Explanation:
Active IQ OneCollect is a NetApp tool designed to collect configuration and performance data from your storage environment, including SAN solutions. It can automate the creation of difference reports by capturing the current state of the system and comparing it against a baseline, thereby showing any changes or deviations from the intended design.
For further details, refer to:
NetApp Active IQ OneCollect Documentation

QUESTION 36
An administrator needs to configure Foreign LUN Import on a NetApp HA pair to migrate over FCP LUNs from a third-party array while serving other LUNs.
Which two actions are required to complete this task? (Choose two.)

A. Reboot the third-party array to prepare for the LUN import.
B. Convert all FC ports on each controller to an FC initiator port.
C. Create zoning from the third-party array to the cluster.
D. Convert a single FC port on each controller to an FC initiator port.

Correct Answer: C, D
Section:
Explanation:
To configure Foreign LUN Import (FLI) on a NetApp HA pair to migrate over FCP LUNs from a third-party array while serving other LUNs, the following actions are required:
Create zoning from the third-party array to the cluster: Proper zoning ensures that the NetApp cluster can communicate with the third-party storage array.
Convert a single FC port on each controller to an FC initiator port: This is necessary for the NetApp system to initiate the connection and access the LUNs on the third-party array.
For more information, refer to:
NetApp Documentation on Foreign LUN Import

QUESTION 37
An administrator is configuring ISCSI on an SVM and requires that all network traffic Is encrypted. What must be done to satisfy this requirement?

A. Configure aggregate encryption.
B. Configure IPsec.
C. Enable FIPS mode.
D. Use CHAP for iSCSI.

Correct Answer: B
Section:
Explanation:
To ensure that all network traffic is encrypted for iSCSI on an SVM, configuring IPsec is required. IPsec (Internet Protocol Security) provides end-to-end encryption for IP traffic, ensuring that data transmitted over the network is secure.
For more details, refer to:
NetApp Documentation on Configuring IPsec

QUESTION 38
What Is a recommended setting for using the NetApp ONTAP LUN fractional reserve?

A. LUN space reservation is disabled.
B. Space allocation is set to enable.
C. Space guarantee is set to volume.
D. Volume Snapshot copy automatic deletion is disabled.

Correct Answer: C
Section:
Explanation:
The recommended setting for using the NetApp ONTAP LUN fractional reserve is to set the space guarantee to 'volume'. This setting ensures that the required space for overwrites in the volume is reserved, preventing potential write failures when snapshot copies are created. This setup helps in maintaining the performance and reliability of the storage system by ensuring there is always enough space allocated for the LUN.
For further details, you can refer to:
NetApp Community Discussion on Fractional Reserve
NetApp Documentation on Space Management

QUESTION 39
An administrator creates a new volume and a LUN for an SAN-connected application that uses snapshots. The application has fast-growing data that is constantly being populated and deleted afterwards.
Which option can be set to manage the space automatically?

A. Enable automatic resizing on the volume.
B. Enable space reservation on the LUN.
C. Disable volume snapshot autodelete.
D. Unmap the LUN.

Correct Answer: A
Section:
Explanation:
To manage space automatically for a volume containing a LUN with fast-growing data, enabling automatic resizing on the volume is recommended. This feature allows the volume to grow dynamically as needed, accommodating the fluctuating data size without manual intervention. This helps in managing storage efficiently and ensures that the application has the required space.
For further details, refer to:
NetApp Documentation on Volume Management
NetApp Community Discussion on Automatic Resizing

QUESTION 40
A site survey has been conducted for an installation of a switchless HA pair with two NetApp DS224C shelves in the customer's already populated rack.
Which of the following two need to be verified to ensure a successful deployment? (Choose two.)

A. Cluster switch location
B. Rack units
C. Power connections
D. Crash cart location

Correct Answer: B, C
Section:
Explanation:
For a successful deployment of a switchless HA pair with two NetApp DS224C shelves in an already populated rack, it is crucial to verify:
Rack units: Ensure that there are enough rack units available to accommodate the new shelves and any associated equipment. Proper planning of space in the rack is essential for a neat and functional setup.
Power connections: Verify that there are sufficient and appropriately rated power connections available. Ensuring proper power distribution and redundancy is critical for the reliability and uptime of the storage system.
For more details, refer to:
NetApp Documentation on Rack Installation
NetApp Community Discussion on Power Connections

QUESTION 41
A customer opens a support case for performance issues with an FC Oracle database after migrating from a NetApp AFF system to a NetApp All SAN Array (ASA) platform. Further investigation shows that the number of paths exceeds the recommendation for SAN deployment.
What are two ways to address this problem? (Choose two.)

A. Use Selective LUN Mapping.
B. Reconfigure the fabric switch zoning.
C. Have the database team change their backup and recovery schedules for the database.
D. Reconfigure the ALUA settings.

Correct Answer: A, B

Section:
Explanation:
When the number of paths exceeds the recommended configuration for SAN deployment, it can cause performance issues. To address this problem, you can:
Use Selective LUN Mapping (SLM): SLM allows you to control which LIFs (Logical Interfaces) are used to access specific LUNs, thus reducing the number of paths and potentially improving performance by aligning with best practice configurations.
Reconfigure the fabric switch zoning: Adjusting the zoning on the fabric switches can help manage and optimize the number of paths, ensuring that there are not too many paths that could lead to inefficient I/O operations and performance degradation.
For more details, refer to:
NetApp SAN Host Configuration
NetApp Best Practices for SAN