

Dell Midrange Storage Solutions Design 2023

EMC D-MSS-DS-23

Version Demo

Total Demo Questions: 10

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Topic Break Down

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Topic 1, Dell PowerStore	39
Topic 2, Dell Unity XT	51
Topic 3, Midrange Storage Solutions Design	11
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QUESTION NO: 1

Which two options are input parameters for Unity Designer? (Select 2)

- A. NAS Server Nodes
- B. Enclosures
- C. Block and File resources
- D. Drive Modules
- E. Host Access Modes

ANSWER: A C

Explanation:

Unity Designer uses workload and service requirements as inputs to develop an appropriately sized Dell Unity configuration. **NAS Server Nodes** is an input because the design must account for the NAS services required by the environment, including the number of logical NAS server instances that will provide file access. This lets the sizing process incorporate the file-service topology into the resulting design. **Block and File resources** is also an input because capacity and resource requirements for block storage and file storage are fundamental workload characteristics. The designer uses those requirements to determine a configuration capable of supporting the requested storage services and expected growth.

These inputs express what the customer needs the Unity system to deliver, rather than defining the physical hardware layout directly. Dell Unity systems provide unified block and file storage, so gathering both resource types during design is necessary to produce a configuration aligned with the intended use case. Dell's Unity XT product information describes this unified-storage role, and Dell's Unity documentation resources provide the associated planning and configuration guidance: [Dell Unity XT storage](#) and [Dell Unity Family documentation resources](#).

QUESTION NO: 2

What non-Dell product reports can be generated using My Work?

- A. HP EVA and IBM SVC
- B. NetApp and HDS
- C. 3PAR and IBM XIV
- D. HDS and 3PAR

ANSWER: B

Explanation:

NetApp and HDS reports can be generated using My Work. In the Dell services and support context, My Work provides reporting that helps users review the installed environment and service-related information across supported third-party infrastructure as well as Dell Technologies products. NetApp storage systems and Hitachi Data Systems (HDS) arrays are included among the supported non-Dell platforms for this reporting use case. This enables a broader view of a customer environment when planning, assessing, or managing storage services, rather than limiting reports only to Dell-branded arrays. The capability is relevant to solution design because existing heterogeneous storage estates often need to be inventoried and assessed before a refresh, migration, consolidation, or support engagement. Dell's support resources describe access to service and support tools through the customer portal, while Dell's storage portfolio resources provide the surrounding context for designing and managing Dell storage solutions in mixed customer environments. See the [Dell Technologies Support portal](#) and the [Dell Technologies storage portfolio](#) for current product and support-tool access information.

QUESTION NO: 3

A customer has three Dell PowerStore 1000Ts in a cluster and wants to add a PowerStore 5000X. What must they do?

- A. Create a cluster with the 5000X.
- B. Use the PowerStore CLI to add the appliance.
- C. Reconfigure the existing cluster.
- D. Use the PowerStore Manager to add the appliance.

ANSWER: A

Explanation:

Create a cluster with the 5000X. A PowerStore cluster is built from compatible appliances running the same PowerStore personality. The existing appliances are PowerStore T models, which provide unified block and file storage services, whereas the PowerStore 5000X is an X model designed to provide external storage for VMware environments. These appliance types cannot be combined in one cluster. Consequently, the 5000X must be initialized as a separate PowerStore cluster rather than added to the existing three-appliance PowerStore 1000T cluster. This preserves the supported appliance and service configuration for each system while allowing the customer to manage the new 5000X independently. Dell's PowerStore documentation describes the appliance models and clustering architecture, and the PowerStore 5000X documentation is available through Dell Support for product-specific planning and deployment guidance. See the [Dell PowerStore 5000X documentation](#) and the [Dell PowerStore Info Hub](#).

QUESTION NO: 4

A customer plans to connect existing Fibre Channel hosts to a new PowerStore system. Which two interoperability checks should be completed before finalizing the design? (Select 2)

- A. Validate the host operating system, HBA driver, and HBA firmware.
- B. Validate the Fibre Channel switch model and Fabric OS level.
- C. Validate the planned snapshot-retention period.
- D. Validate the expected data reduction ratio.
- E. Validate the requested volume sizes.

ANSWER: A B

Explanation:

The host operating system, HBA model, driver, and firmware must be validated against the supported PowerStore host-connectivity configuration. The Fibre Channel switch model and Fabric OS level must also be validated for interoperability with the planned storage and host environment.

These checks identify supportability issues before deployment. Volume size, data reduction expectations, and snapshot-retention requirements are important sizing and protection considerations, but they do not replace interoperability validation for the host and SAN components.

QUESTION NO: 5

Which two features are supported by the Cloud IQ mobile App? (Select 2)

- A. Manage capacity, and performance details for the supported Dell storage platforms.
- B. Overview of health, capacity, and performance details for the supported Dell storage platforms.
- C. Allows users to email the recommended remediation to a colleague for help with performing the resolution.

D. Allows users to set up access controls by assigning users to predefined roles.

ANSWER: B C

Explanation:

The CloudIQ mobile app is intended to give administrators a convenient, at-a-glance view of the operational condition of their connected Dell infrastructure while away from the full CloudIQ web interface. It supports an overview of health, capacity, and performance details for supported Dell storage platforms. This lets a user quickly identify whether systems have health issues, evaluate high-level capacity consumption, and review performance status from a mobile device. The information is designed for monitoring and prioritizing attention rather than performing full administrative configuration.

The app also supports sharing recommended remediation by email. When CloudIQ identifies a condition and presents recommended corrective guidance, a user can email that remediation information to a colleague. This supports collaboration by allowing the person responsible for resolution to receive the relevant recommendation without needing the mobile-app user to reproduce the details manually. Together, these capabilities align with CloudIQ's purpose of proactive monitoring, intelligent insights, and streamlined response to infrastructure issues. Dell describes CloudIQ as a cloud-based AIOps application that provides monitoring, analytics, and remediation guidance for Dell infrastructure. See the [Dell CloudIQ overview](#) and the [CloudIQ User Guide](#).

QUESTION NO: 6

Which two workload parameters are required to proceed with sizing for a PowerStore solution? (Select 2)

- A. Response time
- B. IOPS
- C. Effective Capacity
- D. Data reduction ratio

ANSWER: B C

Explanation:

IOPS and Effective Capacity are the essential starting workload inputs for PowerStore sizing because they establish the solution's required performance level and usable-capacity target. IOPS quantifies the expected I/O demand that the storage system must sustain. It enables the sizing process to select a configuration with sufficient processing, drive, and appliance resources for the workload's anticipated transaction rate. Effective Capacity represents the amount of capacity the customer needs available for data after the planned data-efficiency assumptions have been applied. This capacity requirement is used to determine the raw storage resources and expansion requirements needed to meet the design target. Together, these inputs allow a sizing exercise to balance performance and capacity rather than selecting a configuration based on only one dimension. Dell's PowerStore documentation and sizing resources emphasize collecting workload performance and capacity requirements before designing the appliance configuration and its storage layout. See the [Dell PowerStore Info Hub and product documentation](#) and the [Dell PowerStore product overview](#) for PowerStore planning and platform information.

QUESTION NO: 7

What is the maximum throughput per port in backend 12 GB SAS ports in Dell Unity XT arrays?

- A. 2,000 Mbps
- B. 2,500 Mbps
- C. 25,000 Mbps
- D. 250 Mbps

ANSWER: B

Explanation:

2,500 Mbps is the expected maximum throughput figure per backend 12 Gb SAS port for this Dell Unity XT design question. The back-end SAS connectivity is the internal expansion path used by the storage processors to communicate with disk enclosures. Its throughput must be considered when designing the array's drive layout, enclosure placement, and expected workload distribution, particularly where large numbers of drives or high-performance flash media are attached. Dell Unity XT uses 12 Gb SAS for its back-end infrastructure, providing a high-speed and resilient connection to supported disk-array enclosures. The 2,500 Mbps per-port value is the platform-design throughput specification being tested, rather than the nominal SAS signaling rate alone. In practice, usable throughput planning also accounts for controller resources, path configuration, drive capabilities, workload characteristics, and high-availability cabling. Dell's Unity documentation collection provides the platform technical and hardware planning documentation used to validate supported expansion and connectivity designs: [Dell Unity Family Product Documentation](#). Product-family information is also available from [Dell Unity XT Storage Arrays](#).

QUESTION NO: 8

Which two parameters avoid bottlenecks and improve performance when sizing Dell Unity XT storage solutions? (Select 2)

- A. Network Bandwidth
- B. Port Utilization
- C. Port load balancing
- D. Network Latency
- E. Workload Types

ANSWER: B

Explanation:

Port Utilization is a key sizing and design parameter because it measures how much I/O demand is being placed on each available front-end storage port. Dell Unity XT performance depends not only on the storage processors and drive configuration, but also on having sufficient, properly distributed host connectivity. Reviewing expected port utilization helps a designer identify whether available Ethernet or Fibre Channel ports have enough aggregate throughput for the workload and whether additional ports, host paths, or connectivity changes are needed. Keeping utilization within reasonable limits provides headroom for peaks, failover events, and future growth, reducing the likelihood that a saturated front-end connection becomes the limiting component of an otherwise capable system. It is therefore directly relevant to avoiding connectivity bottlenecks during solution sizing. Dell's Unity host-connectivity guidance emphasizes planning host connections and paths appropriately for resilient, balanced access to storage resources. See the [Dell Unity Family Host Connectivity Guide](#) and the [Dell Unity XT family overview](#) for platform and connectivity information.

QUESTION NO: 9

A customer has a PowerStore 3200T system with only base enclosure consisting of 15 SSD 1920 GB drives and wants to expand the available capacity. What is the most cost-effective drive addition from a raw and usable capacity perspective to achieve the result wanted by the customer?

- A. 6 x 1920 NVMe SSD drives
- B. 6 x 3840 NVMe SSD drives
- C. 6 x 750 GB NVMe SCM drives

ANSWER: B

Explanation:

6 x 3840 NVMe SSD drives is the appropriate expansion because PowerStore capacity expansion is performed by adding a minimum set of six compatible drives, and this option supplies the greatest additional flash capacity among the supported SSD choices. Six 3.84 TB drives add 23.04 TB of raw capacity, compared with 11.52 TB from six 1.92 TB drives. This larger increment provides substantially more usable capacity after PowerStore's distributed RAID and system-reserved capacity are accounted for, while avoiding the need for a second expansion sooner.

The existing appliance uses NVMe SSDs, so adding higher-capacity NVMe SSDs maintains an all-flash SSD expansion approach appropriate for general capacity growth. PowerStore's dynamic-resiliency architecture distributes protection across the drive set and automatically incorporates added drives into the appliance's available storage resources. Consequently, selecting the 3.84 TB SSD increment is the most economical choice from a capacity-per-expansion perspective: it maximizes raw capacity and delivers the corresponding largest usable-capacity increase with the same six-drive expansion event. Dell's PowerStore technical documentation describes the platform's drive-based expansion and dynamic resiliency behavior, while the PowerStore specification sheet lists the applicable NVMe drive technologies and capacities. See the [Dell PowerStore Technical Primer](#) and the [Dell PowerStore specification sheet](#).

QUESTION NO: 10

A Dell Unity XT system will provide iSCSI storage for a high-throughput virtualized environment. Which two network practices should be included in the design? (Select 2)

- A. Use dedicated VLANs or networks for iSCSI traffic.
- B. Configure jumbo frames consistently across the complete iSCSI path.
- C. Enable jumbo frames only on the Unity XT iSCSI interfaces.
- D. Route iSCSI traffic through the general user-access VLAN.
- E. Use LACP as the only iSCSI path-resiliency mechanism.

ANSWER: A B

Explanation:

iSCSI traffic should be isolated on dedicated storage VLANs or networks so that it does not contend unnecessarily with general client or management traffic. Jumbo frames should also be configured consistently across the Unity XT iSCSI interfaces, Ethernet switches, and host NICs when the end-to-end network supports the required MTU.

Enabling jumbo frames only on the storage array creates an MTU mismatch and can cause connectivity or performance problems. Routing iSCSI traffic through a general user VLAN reduces isolation and can introduce congestion. LACP is principally a NAS network availability design consideration and is not a substitute for properly designed iSCSI paths.